



Suruhanjaya Perkhidmatan Air Negara

National Water Services Commission

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

REVISION 10

Industry Development Division

14th June 2017

NATIONAL WATER SERVICE COMMISSION (SPAN)

SPAN is a technical and economic regulatory body for the water supply and sewerage services in Peninsular Malaysia and Federal Territories of Kuala Lumpur, Putrajaya and Labuan.

SPAN regulates all entities in the water supply and sewerage services industry including public water supply and sewerage services operators, private water supply and sewerage services operators, water supply and sewerage contractors, permit holders and suppliers of water and sewerage products.

SPAN regulates the water services industry in accordance Water Services Industry Act 2006 (Act 655) which enforced on 01 January 2008.

SPAN vision is towards a sustainable, reliable and affordable water supply services for all and their mission is to regulate the water services industry through fair, effective and transparent implementation of Water Services Industry Act 2006 (Act 655).

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RECORD OF AMENDMENT

Rev.	Effective Date	Page	Description of Amendments
0	01 March 2012	-	First Issuance
1	28 February 2013	6	Clause 4.1: Imposed on application for listing/registration to be made on line through e-registration
2	25 July 2013	4 4 6 7 11 11	Amendments made on the following matters: Clause 5.1: Application for listing Clause 5.2: Processing time for listing Clause 6.1: Application for registration Clause 6.4: Certificate of Registration Clause 11.0: Use of SPAN logo Clause 12.2 SPAN 's right not to process an application or to cancel a listing or a registration
3	18 April 2014	1 1 2	Amendments made on the following matters: Clause 1.3 Water Services Industry (Water Reticulation and Plumbing) Rules 2014 Clause 2.1: Redefined Supplier Clause 3.2 and 3.3: Water Services Industry (Water Reticulation and Plumbing) Rules 2014

Rev.	Effective Date	Page	Description of Amendments
		9	Clause 7.2: Add list of bodies that can do the translation of product certificate
		9	Clause 7.3: Additional organization that can do product certification
		10	Clause 8.2: Add list of bodies that can do the translation of testing report
		10	Clause 8.3: Statement for validity of test report
		10	Clause 8.4: Additional organization that can do product testing
		11	Clause 10.1 Add requirement to comply with SPAN specified requirements
		Others	Updated APPENDICES A and B Revised APPENDIX C for additional requirements or conditions for specific products
4	16 October 2014	Others	Updated APPENDIX B
5	01 November 2014	2	Clause 3.2: Included 'Water Services Industry (Water Reticulation and Plumbing) (Amendment) Rules 2014'
		Others	Updated APPENDICES A and B.
6	15 June 2015	2	Changed 'Water Services Industry (Water Reticulation and Plumbing) (Amendment) Rules 2014' with 'any amendments thereto'.
		Others	Updated APPENDICES A and B.

Rev.	Effective Date	Page	Description of Amendments
7	01 October 2015	4 9 10 10 10 Others	<p>Clause 5.2.1: Changed processing for listing application from 'seven (7) working days' to '21 working days'.</p> <p>Clause 7.3 (b): Changed sentence 'MRA' to 'Multi Lateral Recognition (MLA)'</p> <p>Clause 8.4 (a) & 8.4 (c): Changed sentence 'CBs' to 'Labs'</p> <p>Clause 8.4 (a) Changed 'Accreditation of Certification Bodies (ACB) Scheme' with 'Skim Akreditasi Makmal Malaysia (SAMM)'</p> <p>Updated Guidance to Conduct a Pilot Project</p> <p>Updated APPENDICES A, B and C</p>
8	01 December 2015	12 Others	<p>Clause 9.6 (a): Changed www.standardsmalaysia.gov.my with http://www.jsm.gov.my</p> <p>Updated APPENDICES A, B & C</p>
9	01 March 2016	8 8	<p>Clause 7.2 (i): Changed 'Institut Terjemahan & Buku Malaysia (ITBM)' with 'Malaysian Institute of Translation & Books (ITBM)'</p> <p>Clause 7.2: Adding institute to translate other language to Bahasa Malaysia or English:</p> <ul style="list-style-type: none"> (d) Translator/Malaysia Court Translator (e) The Institute of Language and Literature (DBP) (f) The recognize university of the country of origin of products (g) Local university that have expertise in language & linguistic (h) Translator whom appointed/certified by foreign Embassy/High Commission to Malaysia

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		8	<p>Clause 7.3: Add requirement to submit application: d) Certificate issued by CB's must be not less than three (3) month expired dates during submit new/renewal application.</p>
		9	<p>Clause 8.2 (i): Changed 'Institut Terjemahan & Buku Malaysia (ITBM)' with 'Malaysian Institute of Translation & Books (ITBM)'</p>
		9	<p>Clause 8.2 (i): Adding institute to translate other language to Bahasa Malaysia or English: (d) Translator/Malaysia Court Translator (e) The Institute of Language and Literature (DBP) (f) The recognize university of the country of origin of products (g) Local university that have expertise in language & linguistic (h) Translator whom appointed/certified by foreign Embassy/High Commission to Malaysia</p>
		Others	Updated APPENDICES A, B & C
10	14 June 2017	1	<p>Clause 1.1 Change sentence 'Federal Territories of Putrajaya and Labuan' to 'Federal Territories of Kuala Lumpur, Putrajaya and Labuan'.</p>
		1	<p>Clause 2.1 Redefined a product.</p>
		2	<p>Adding definition for certification body, conforming product, guideline, non-conforming product, performance test standard, product certificate, product standard, industry standard, standard product and technical specification,</p>
		4	<p>Clause 4.3 Change clause number to 4.5.</p>

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		4	<p>Clause 4.3 (new) Add new clause 'Only a company incorporated in Malaysia or such other supplier as may be decided by the Commission from time to time to be eligible to apply for listing or registration of supplier and product.'</p>
		4	<p>Clause 4.4 (new) Add new clause 'Except for chemical products, SPAN will not accepts any application for same product from two (2) suppliers. The manufacturers/principals need to decide either one as their agent of the product.'</p>
		4	<p>Clause 4.5 Add website address link for listed & registered supplier for Water Supply & Sewerage System for Category A & Category B:</p> <p>(a) Water Supply System Category A</p> <p>(i) Category A: http://www.span.gov.my/index.php/en/register/supplier/water-supply-system/listing-reg-of-supplier/category-a-water</p> <p>(ii) Category B: http://www.span.gov.my/index.php/en/register/supplier/water-supply-system/listing-reg-of-supplier/category-b-water</p> <p>(b) Sewerage System</p> <p>(i) Category A: http://www.span.gov.my/index.php/en/register/supplier/sewerage-system/listing-reg-of-supplier/category-a-sewerage</p> <p>(ii) Category B: http://www.span.gov.my/index.php/en/register/supplier/sewerage-system/listing-reg-of-supplier/category-b-sewerage</p>

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		5	Clause 5.1.2 Add new sentence '(shall showed the expiry date and validity not less than three month)' under sub-clause (f).
		5	Clause 5.1.2 Change word Material Safety Data Sheet to Safety Data Sheet (SDS) under sub-clause (g).
		5	Clause 5.1.2 Change word SIRIM-NMSL to National Metrology Institute of Malaysia (NMIM) under sub-clause (h).
		5	Clause 5.1.2 Add new sub-clause (i) Perakuan Pematuhan Standard (PPS) issued by CIDB ; (for local & imported products building materials which stated in the Fourth Schedule of Act 520 only).
		5	Clause 5.1.2 Add new sub-clause (j) Any other additional information, document, specification and requirements as may be required by the Commission.
		6	Clause 5.2.2 Change sentence 'The processing time include the time for reviewing and approving of an application , issuing of confirmation letter and listing of supplier at the SPAN website' to 'The processing time include the time for reviewing and approving of a complete application , issuing of confirmation letter and listing of supplier at the SPAN website.
		6	Clause 5.3.1 Change word 'Senior Director of Research, Development and Innovation Division of SPAN' to 'Senior Director of Industry Development Division of SPAN.'
		6	Clause 5.5 Change title 'Period of Listing' to ' Duration of Listing '.

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		6	<p>Clause 5.5.1 (new) Add new clause ‘Unless the listing is revoked by the Commission before its expiry, the listing shall be valid until the expiry of the validity of the product certificate for the standard product or such other duration as may be determined by the Commission.’</p>
		7	<p>Clause 5.6 Change title ‘Maintaining of Products in SPAN Listing’ to ‘Renewal of Listing’.</p>
		7	<p>Clause 5.6.2 Change sentence ‘Supplier will be delisted if SPAN does not receive the renewed certificate within the one-month extended period’ to ‘Supplier will be delisted if SPAN does not receive the renewed certificate within the one (1) month extended period’.</p>
		7	<p>Clause 5.7 Withdrawn Clause 5.7 Responsibilities of Listed Suppliers, sub-clause 5.7.1 and sub-clause 5.7.2.</p>
		7	<p>Clause 5.7 (new) Add new title Clause 5.7 Suspension or Revocation of Listing.</p>
		7	<p>Clause 5.7.1 (new) Add new clause ‘The commission may by a written notice suspend or revoke the listing if:’</p> <ul style="list-style-type: none"> (a) The supplier fails to comply with any of the conditions imposed by the Commission or any of the requirements specified in the guidelines; (b) The product certificate for the standard product is revoked or suspended by a certification body; (c) The supplier fails to comply with any of the provisions of the Act, these Guidelines or any subsidiary legislation under the Act; (d) The Commission receives any complaint regarding the supplier or the standard product;

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			<p>(e) The supplier has fraudulently, improperly or illegally obtained the listing;</p> <p>(f) The information, data, document or product certificate provided to the Commission is found to be in error;</p> <p>(g) The supplier ceases to carry on the business in respect of which he is listed;</p> <p>(h) The supplier has been adjudicated a bankrupt; or</p> <p>(i) There has been any act or default on the part of the supplier or there has been a change in the circumstances such that the supplier would no longer be entitled to be approved for listing under these Guidelines.</p>
		7	<p>Clause 5.7.2 Add new clause 'The Commission may require the supplier to suspend the supply of the product pending the decision on the suspension or revocation from the date of the notice.'</p>
		7	<p>Clause 5.7.3 Add new clause 'The supplier shall not be entitled to any form of compensation from SPAN for any loss caused to the supplier due to the suspension or revocation under these Guidelines.'</p>
		7	<p>Clause 5.8 (new) Add new clause title 'Transfer of Listing'</p>
		7	<p>Clause 5.8.1 Add new clause 'The listing is personal to the supplier and shall not be assigned or transferred to any other party.'</p>
		7	<p>Clause 6.7.3 Add new clause 'The supplier shall not be entitled to any form of compensation from the Commission for any loss caused to the supplier due to the suspension or revocation under this Guidelines.'</p>
		8	<p>Clause 6.1.2 Change word SIRIM-NMSL to National Metrology Institute of Malaysia (NMIM) under item 6.1.2 (h).</p>

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		8	<p>Clause 6.1.2 Add new sub-clause (j) Any other additional information, document, specification and requirements as may be required by the Commission.</p>
		9	<p>Clause 6.2.1 Change sentence 'Certificate of registration will be issued to the successful applicant within 21 working days from the date of receipt of an application' to 'Certificate of registration will be issued to the successful applicant within 21 working days from the date of receipt of a complete application'.</p>
		9	<p>Clause 6.3.1 Change word 'Chief Executive Officer of SPAN to 'Senior Director of Industry Development Division of SPAN.'</p>
		9	<p>Clause 6.4.1 Change sentence 'An approved applicant will be issued with a Certificate of Registration that consists of the following information:' to An approved applicant will be displayed at the SPAN website and will be issued with a Certificate of Registration signed by Chief Executive Officer of SPAN that consists of the following information:'</p>
		9	<p>Clause 6.4.2 Change sentence 'Federal Territories of Putrajaya and Labuan only;' to 'Federal Territories of Kuala Lumpur, Putrajaya and Labuan only;' under sub-clause (a)</p>
		9	<p>Clause 6.4.2 (c) Withdrawn sub-clause (c) - (i), (ii), (iii), (iv) & (v)</p>
		10	<p>Clause 6.4.2 (d) Change clause no to 6.4.2 (c)</p>
		10	<p>Clause 6.4.2 (e) Change clause no to 6.4.2 (d)</p>

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		10	Clause 6.4.2 (f) Change clause no to 6.4.2 (e)
		10	Clause 6.5.2 Add new clause 'However, to facilitate any unforeseen delay, the expired registration will remain valid in SPAN registration for an additional one month.
		10	Clause 6.6.2 Supplier will be deregistered if SPAN does not receive the renewed certificate within the one (1) month extended period.
		11	Clause 6.7 Add new clause title 6.7 Suspension or Revocation of Registration.
		11	Clause 6.7.1 Add new clause The commission may by a written notice suspend or revoke the registration if: <ul style="list-style-type: none"> (a) The supplier fails to comply with any of the conditions imposed by the Commission or any of the requirements specified in the guidelines; (b) The product certificate for the product is revoked or suspended by a certification body; (c) The supplier fails to comply with any of the provisions of the Act, these Guidelines or any subsidiary legislation under the Act; (d) The Commission receives any complaint regarding the supplier or the product; (e) The supplier has fraudulently, improperly or illegally obtained the registration; (f) The information, data, document, report or certificate provided to the Commission is found to be in error; (g) The supplier ceases to carry on the business in respect of which he is registered; (h) The supplier has been adjudicated a bankrupt; or

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			(i) There has been any act or default on the part of the supplier or there has been a change in the circumstances such that the supplier would no longer be entitled to be approved for registration under these Guidelines.
		11	Clause 6.7.2 Add new clause 'The Commission may require the supplier to suspend the supply of the product pending the decision on the suspension or revocation from the date of the notice.'
		11	Clause 6.7.3 Add new clause 'The supplier shall not be entitled to any form of compensation from the Commission for any loss caused to the supplier due to the suspension or revocation under this Guidelines.'
		11	Clause 6.8 (new) Add new clause title ' Transfer of Registration '
		11	Clause 6.8.1 Add new clause 'The registration is personal to the supplier and shall not be assigned or transferred to any other party.'
		12	Clause 7.3 Withdrawn sub-clause under item (d)
		12	Clause 7.4 (new) Any suppliers whose provide product certificate which have validity more than one (1) year, shall submit yearly surveillance audit report during renewal application.
		13	Clause 8.3 Change sentence 'The validity of the test report shall be within five (5) years from the date of the application. ' to 'The validity of the test report shall be within five (5) years from the date of the report issued. '

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		14	Clause 9.1 Replace existing sentence 'The performance of some product Category B is assessed through pilot investigation' with sentence ' SPAN may require a non-conforming product to be assessed through a pilot project. '
		14	Clause 9.2 Replace existing sentence 'Suppliers are required to get SPAN approval to carry out a pilot project before proceeding with the implementation of the project.' with sentence ' The supplier shall carry out the pilot project at a venue approved by the SPAN before proceeding with the implementation of the pilot project. '
		14	Clause 9.3 Replace existing sentence 'Procedures to carry out a pilot project and criteria to measure the performance of a product or a system will be determined by SPAN.' with sentence ' SPAN shall stipulate the terms and procedures to carry out the pilot project and the criteria to measure the safety, quality and performance of the non-performing product. '
		14	Clause 9.4 Add sentence 'The supplier shall appoint assessment body approved by the SPAN to supervise the pilot project.' to the existing Clause 9.4.
		14	Clause 9.4 Withdrawn wording 'Water Supply' from the sentence of this clause.
		14	Clause 9.4 (a) Add new sub-clause (ii) water treatment plant operated by concession company
		14	Clause 9.4 (b) Withdrawn sub-clause (i), (ii) and (iii)

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		14	Clause 9.5 Withdrawn existing sentence 'The list of Third Parties (Independent Agency) certified and endorsed by SPAN for the purpose of monitoring and verification of Sewerage Pilot Project are.'
		14	Clause 9.5 (a) Change existing clause number to 9.4 (b)
		14	Clause 9.4 (b) Add new sub-clause (ii) Majaari Services Sdn. Bhd.
		14	Clause 9.4 (b) Add new sub-clause (iii) any sewerage treatment plant operated by private sector.
		14	Clause 9.5 (b) Change existing clause number to 9.4 (c).
		14	Clause 9.4 (c) Add sub-clause (iii) CIDB Holdings Sdn. Bhd.
		14	Clause 9.5 (c) Change existing clause number to 9.4 (d).
		15	Clause 9.4 (d) Change word 'UPM' to ' Universiti Putra Malaysia (UPM) ' under sub-clause (i).
		15	Clause 9.4 (d) Change word 'UM' to ' University of Malaya (UM) ' under sub-clause (ii).
		15	Clause 9.4 (d) Change word 'UiTM' to ' Universiti Teknologi MARA (UiTM) ' under sub-clause (iii).
		15	Clause 9.4 (d) Change word 'UTM' to ' University of Technology Malaysia (UTM) ' under sub-clause (iv).

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		15	<p>Clause 9.4 (d) Add new sub-clause (v) Pusat Pengajian Kejuruteraan Alam Sekitar (PPKAS), Universiti of Malaysia Perlis (UniMAP).</p>
		15	<p>Clause 9.6 (a) Updates website address www.jsm.gov.my to http://www.jsm.gov.my/cab-directories.</p>
		15	<p>Clause 9.7 (new) Add new clause ‘The assessment body supervising the pilot project shall issue a conformity assessment report if the non performing product conforms to the safety, quality and performance requirements stipulated by the SPAN.</p>
		15	<p>Clause 9.8 (new) Add new clause ‘For detail information and procedure about pilot project can be refer to ‘<i>Manual Pelaksanaan Projek Perintis</i>’ which can be download from SPAN website.’</p>
		15	<p>Clause 10.0 (new) Add new clause title Manufacturer’s Standard</p>
		15	<p>Clause 10.1 (new) Add new clause ‘SPAN may require a non-conforming product to be assessed through evaluation of the specification, test report or performance report submitted by the manufacturer of the non-conforming product.’</p>
		15	<p>Clause 10.2 (new) Add new clause ‘SPAN shall evaluate specification, test report or performance report submitted by the manufacturer and if the specification, test report or performance report meet the requirements for the non-conforming product, SPAN shall approve that product for registration.’</p>
		16	<p>Clause 10.0 Change existing clause number to 11.0</p>

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		16	Clause 10.1 Change existing clause number to 11.1
		16	Clause 10.2 Change existing clause number to 11.2
		16	Clause 11.0 Change existing clause number to 12.0
		16	Clause 11.1 Change existing clause number to 12.1
		16	Clause 11.2 Change existing clause number to 12.2
		16	Clause 12.0 Change existing clause number to 13.0
		16	Clause 12.1 Change existing clause number to 13.1
		16	Clause 12.2 Change existing clause number to 13.2
		16	Clause 12.3 Change existing clause number to 13.3
		16	Clause 13.4 (new) Add new clause 'SPAN have right to suspend or revoke the listing or registration and take legal action if supplier still using the logo after being informed.'
		17	Clause 13.0 Change existing clause number to 14.0
		17	Clause 13.1 Change existing clause number to 14.1
		17	Clause 13.2 Change existing clause number to 14.2
		17	Clause 14.0 Change existing clause number to 15.0

Rev.	Effective Date	Page	Description of Amendments
		17	Clause 14.1 Change existing clause number to 15.1
		17	Clause 14.2 Change existing clause number to 15.2
		17	Clause 15.1 Changed word Research, Development and Innovation Division to Industry Development Division.
		17	Clause 15.1 Change telephone number from 03-8317 9333/334/335 to 03 - 8317 9373, 03 - 8317 9376 or 03 - 8317 9377.
		Others	Updated APPENDICES A, B & C

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

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GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

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APPENDIX A1

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APPENDIX A1

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| 6. | Stop Valve | A1 – xxiv |
| 7. | Ball Valves (Float Operated Valve) | A1 – xxv |
| 8. | Landing Valve | A1 – xxv |
| 9. | Mixing Valve (Manually Operated) | A1 – xxvi |
| 10. | Float Operated Valve | A1 – xxvi |
| 11. | Pressure Reducing Valves | A1 – xxvi |
| 12. | Plug Valve | A1 – xxvi |
| 13. | Penstock | A1 – xxvi |
| 14. | Globe Valve | A1 – xxvi |
| 15. | Knife Gate Valve | A1 – xxvi |

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX A1

F. BACK FLOW PREVENTER

- | | |
|---|------------|
| 1. Dual Check Backflow Preventer | A1 – xxvii |
| 2. Reduced Pressure Zone Assembly | A1 – xxvii |
| 3. Cast Iron Check Valve | A1 – xxvii |
| 4. Steel Check Valves | A1 – xxvii |
| 5. Copper Alloy Globe, Globe Stop, Check and Gate Valve | A1 – xxvii |

G. METER

- | | |
|--|-------------|
| 1. Custody Transfer Meter – Mechanical Water Meter | A1 – xxviii |
| 2. Non-custody Transfer Meter – Mechanical Water Meter | A1 – xxviii |

H. SANITARY FITTINGS – TAPS & MIXER

- | | |
|--------------------------------------|-----------|
| 1. Bib Tap, Pillar Tap, Faucet | A1 – xxix |
| 2. Mixer | A1 – xxix |

I. SANITARY WARES – WATER CLOSET

- | | |
|-----------------------|-----------|
| 1. Water Closet | A1 – xxix |
|-----------------------|-----------|

J. WATER CLOSET FLUSHING CISTERN & FLUSH PIPES

- | | |
|--|-----------|
| 1. Water Closet Flushing Cistern & Flush Pipes | A1 – xxix |
|--|-----------|

K. FLUSH VALVE

- | | |
|----------------------|----------|
| 1. Flush Valve | A1 – xxx |
|----------------------|----------|

L. SANITARY APPLIANCE

- | | |
|---|----------|
| 1. Urinal bowls, Pedestal, Bidets, WC Pan | A1 – xxx |
|---|----------|

M. SANITARY WARES – URINALS

- | | |
|------------------|----------|
| 1. Urinals | A1 – xxx |
|------------------|----------|

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX A1

N. CHEMICAL FOR WATER TREATMENT

1. Activated Carbon (Granular)	A1 – xxxi
2. Activated Carbon (Powdered)	A1 – xxxi
3. Aluminium Sulphate	A1 – xxxi
4. Calcium Hydroxide / Hydrated Lime	A1 – xxxi
5. Calcium Hypochlorite	A1 – xxxi
6. Chlorine	A1 – xxxi
7. Copper Sulphate	A1 – xxxi
8. Ferric Chloride	A1 – xxxi
9. Ferric Sulphate	A1 – xxxi
10. Polyaluminium Chloride and ACH	A1 – xxxi
11. Polymer based on Polyacrylamide	A1 – xxxi
12. Polymer based on Polyamine	A1 – xxxii
13. Polymer based on PolyDADMAC	A1 – xxxii
14. Potassium Permanganate	A1 – xxxii
15. Soda Ash (Sodium Carbonate)	A1 – xxxii
16. Sodium Aluminate	A1 – xxxii
17. Sodium Fluoride	A1 – xxxii
18. Sodium Hydroxide / Caustic Soda	A1 – xxxii
19. Sodium Hypochlorite	A1 – xxxii
20. Sodium Silicofluoride	A1 – xxxii

APPENDIX A2

A. FLOW CONTROL

1. Air Valve	A2 – i
2. Butterfly Valve	A2 – i
3. Check Valve	A2 – i
4. Gate Valve	A2 – ii
5. Knife Gate Valve	A2 – ii
6. Plug Valve	A2 – ii
7. Penstock	A2 – iii

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX A2

B. SEWAGE CONVEYANCE

1. Manhole	A2 – iii
2. Manhole Cover	A2 – iii
3. Acrylonitrile Butadiene Styrene (ABS) Pipes & Fittings	A2 – iv
4. Cast Iron Pipes & Fittings	A2 – iv
5. Ductile Iron (DI) Pipes & Fittings	A2 – iv
6. Glass Reinforced Thermosetting Plastic (GRP) Pipes	A2 - v
7. Polyethylene (PE) Pipes & Fittings	A2 - vi
8. Polypropylene (PP) Pipes & Fittings	A2 - vi
9. Poly(Vinyl Chloride) (PVC) Pipes & Fittings	A2 - vii
10. Reinforced Concrete (RC) Pipes & Fittings	A2 - vii
11. Stainless Steel (SS) Pipes & Fittings	A2 - viii
12. Steel Pipes & Fittings	A2 – ix
13. Vitrified Clay (VC) Pipes & Fittings	A2 - ix

C. SEWAGE CONVEYANCE

1. Package Plant	A2 – x
2. Small Sewage Treatment System (SSTS)	A2 – x
3. Septic Tank	A2 - x

APPENDIX B1

A. CHEMICAL FOR WATER TREATMENT

1. Imported Chemicals for Water Treatment	B1 – i
– Chlorine Dioxide	
2. Imported Chemicals for Water Treatment	B1 – i
– Soda Ash, Polymers, Potassium Permanganate	
3. Proprietary Calcium Hydroxide for Water Treatment	B1 – i
4. Steam Activated Wood for Water Treatment	B1 – i

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX B1

B. CONVEYANCE OF WATER

- | | | |
|----|--|---------|
| 1. | Chlorinated Poly(Vinyl Chloride) (PVC-C) Pipes | B1 – ii |
| 2. | Modified Poly(Vinyl Chloride) (PVC-M) Pipes | B1 – ii |
| 3. | Coupling Ductile Iron (DI) | B1 – ii |
| 4. | Ferrous Saddle Ductile Iron (DI) | B1 – ii |
| 5. | Mechanical Joint Compression Fittings | B1 – ii |
| 6. | Stainless Steel (SS) Steel Fittings | B1 – i |
| 7. | Strainer Ductile Iron (DI) | B1 – ii |

C. FLOW CONTROL

- | | | |
|----|--|----------|
| 1. | Centrifugal Pump | B1 – iii |
| | – End Suction, Multistage, Self-Priming, Split Casing, Submersible | |
| 2. | Constant Flow Controllers | B1 – iii |
| 3. | Knife Gate Valve Ductile Iron (DI) | B1 – iii |
| 4. | Pilot Control Valve | B1 – iv |
| 5. | Thermoplastic Stopvalves for Potable Water Supply | B1 – iv |
| 6. | Valves for Waterworks | B1 – iv |
| | – Air Valve, Butterfly Valve, Check Valve, Gate Valve | |
| 7. | Valves | B1 – iv |
| | – Beyond the range of diameters specified in the standard | |
| 8. | Water Hammer Arresters | B1 – v |

D. INSTRUMENTATION AND CONTROL

- | | | |
|----|---------------------------------------|---------|
| 1. | Motorised Actuator | B1 - vi |
| | – Electric Operated, Battery Operated | |

E. LINING/COATING/WATERPROOFING/SEALANT/ADHERSIVE/SOLVENT CEMENT

- | | | |
|----|--|---------|
| 1. | Lining, Coating, Waterproofing, Sealant, Adhesive, Solvent
Cement | B1 - vi |
|----|--|---------|

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX B1

F. MEASURING DEVICE

1. Electromagnetic Flowmeter (Custody Transfer Meter) B1 – viii
2. Electromagnetic Flowmeter (Non-Custody Transfer Meter) B1 – ix
3. Ultrasonic Flowmeter B1 – ix
– Clamp-On, Insertion, Open Channel

G. NEW INNOVATIVE PRODUCT

1. New Innovative System / Product B1 – ix
– Treatment of Water, Storage of Water or Conveyance of Water

H. STORAGE OF WATER

1. Cylindrical Double Fold System Tank B1 – ix
2. Corrugated Steel Panel with PE-Lined Water Storage Tank B1 – ix

I. WATER QUALITY MONITORING EQUIPMENT

1. Laboratory Equipment Test Portable/Fix Type (Single Parameter) B1 – x
2. Laboratory Equipment Test Portable/Fix Type (Multiple Parameter) B1 – x
3. On-line Analyser Monitoring System (Single Parameter) B1 – x
4. On-Line Analyser Monitoring System (Multiple Parameter) B1 – x

J. WATER QUALITY MONITORING EQUIPMENT

1. Disinfection System B1 – xi
– Chlorine Dosing System
2. Disinfection System B1 – xi
– Ozone
3. Disinfection System B1 – xi
– Ultraviolet (UV)
4. Electro Chlorination B1 – xi
– Brine Solution, Sea Water
5. Membrane Filtration B1 – xi
– Ceramic, Micro-filtration, Nano-filtration, Ultra-filtration, R.O

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX B1

J. WATER QUALITY MONITORING EQUIPMENT

- | | |
|---|----------|
| 6. Metering Pumps | B1 – xii |
| – Diaphragm pumps, Piston pumps, Peristaltic pumps, Screw pumps | |

K. WATER TREATMENT SYSTEM

- | | |
|--|----------|
| 1. Compact Plant | B1 – xii |
| – Conventional, Dissolved Air Flotation (DAF) | |
| 2. Package Plant | B1 – xii |
| – Dissolved Air Flotation (DAF), KS Filter, Lamella Settler, Revo Filter | |
| 3. Package Plant with Membrane Filtration System | B1 – xii |
| 4. Package Plant with Bio-Green Filtration System | B1 – xii |

APPENDIX B2

A. AERATION

- | | |
|--|--------|
| 1. Diffused Aerator / Mechanical Aerator | B2 – i |
| 2. Diffuser | B2 – i |

B. AIR SUPPLY

- | | |
|--------------------------------------|--------|
| 1. Air Blower & Air Compressor | B2 – i |
|--------------------------------------|--------|

C. AIR VACUUM

- | | |
|----------------------|---------|
| 1. Vacuum Pump | B2 – ii |
|----------------------|---------|

D. CLARIFIER / SEDIMENTATION

- | | |
|---|---------|
| 1. Scum Skimmer | B2 – ii |
| 2. Sludge Scrapper | B2 – ii |
| 3. Sludge Scrapper & Scum Skimmer | B2 – ii |

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX B2

E. DISINFECTION

- | | | |
|----|------------------------|----------|
| 1. | Chlorination | B2 – ii |
| 2. | Ultraviolet (UV) | B2 – iii |

F. EFFLUENT AND WATER REMOVAL / RECYCLE

- | | | |
|----|--------------------------------------|----------|
| 1. | Effluent Transfer & Dewatering | B2 – iii |
|----|--------------------------------------|----------|

G. EFFLUENT DECANTING

- | | | |
|----|-------------------------|---------|
| 1. | Effluent Decanter | B2 – iv |
|----|-------------------------|---------|

H. FLOW CONTROL

- | | | |
|----|-------------------------------------|---------|
| 1. | Air Relief Valve | B2 – iv |
| 2. | Automatic Control Valve | B2 – iv |
| 3. | Eccentri Semi Ball-Plug Valve | B2 – iv |
| 4. | Flap Valve | B2 – iv |
| 5. | Interface Valve | B2 – iv |
| 6. | Recoil Check Valve | B2 – iv |

I. GRIT AND GREASE REMOVAL

- | | | |
|----|---|---------|
| 1. | Grease Collector | B2 – v |
| | – Chain & Flight, Through-pipe Skimmer, Weir Skimmer | |
| 2. | Grit & Grease Collector | B2 – v |
| | – Chain & Flight, Detritor, Travelling Bridge | |
| 3. | Grit Collector | B2 – v |
| | – Aerated, Horizontal Flow, Vortex | |
| 4. | Grit Transfer Pump | B2 – v |
| | – Positive Displacement Pump, Centrifugal Pump | |
| 5. | Grit Transfer | B2 – vi |
| | – Chain & Bucket, Compactor, Compactor & Conveyor, Conveyor | |
| 6. | Grit Washing & Dewatering | B2 – vi |
| | – Drum Screen, Rotary Screen, Screw Screen, Static Screen | |

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX B2

J. INSTRUMENTATION AND CONTROL

1.	Actuator	B2 – vii
	– Electric	
2.	Actuator	B2 – vii
	– Pneumatic	
3.	Analyser	B2 – vii
4.	Chemical Dosing	B2 – vii
	– Monitoring system	
5.	Dissolved Oxygen	B2 – vii
6.	Gas Control	B2 – viii
7.	Level Meter	B2 – viii
8.	Non-Custody Flowmeter	B2 – viii
9.	ORP & pH Meter	B2 – viii
10.	Pressure Meter	B2 – viii
11.	Sludge Density Meter	B2 – viii
12.	System Control	B2 – ix
13.	Temperature Meter	B2 – ix

K. MIXING

1.	Agitator	B2 – ix
2.	Mixer	B2 – ix
	– Flow Booster, Flow Maker, Surface Mixer	
3.	Mixer	B2 – ix
	– Submersible	

L. ODOUR CONTROL AND TREATMENT

1.	Odour Control and Treatment	B2 – ix
	– Biofiltration, Bioscrubbing, Carbon Adsorption, Deodorizer, Liquid Redox, Photoionisation, Solid Scavenger, Wet Air Scrubbing	

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX B2

M. PRE-TREATMENT

- | | | |
|----|-------------------------------------|--------|
| 1. | Grease Trap | B2 – x |
| 2. | Communal Grease Trap | B2 – x |
| 3. | Complete Pre-Treatment System | B2 – x |

N. PRIMARY AND SECONDARY SCREENING

- | | | |
|----|---|---------|
| 1. | Screen | B2 – x |
| | – Manual, Mechanical | |
| 2. | Screening Transfer | B2 – xi |
| | – Compactor, Conveyor, Compactor & Conveyance | |

O. RAW SEWAGE PUMPING

- | | | |
|----|----------------------------------|---------|
| 1. | Positive Displacement Pump | B2 – xi |
| 2. | Centrifugal Pump | B2 – xi |

P. SEWAGE CONVEYANCE

- | | | |
|----|--------------------------------|-----------|
| 1. | Sewer Liner | B2 – xii |
| | – Cured-in-place pipes (CIPP) | |
| 2. | Sewer Liner | B2 – xiii |
| | – FRP Slip Lining, HDPE Lining | |

Q. SLUDGE TREATMENT

- | | | |
|----|--------------------------------------|-----------|
| 1. | Biogas System | B2 – xiii |
| | – Gas Holder | |
| 2. | Gas Control | B2 – xiii |
| | – Gas Holder | |
| 3. | Gas Holder | B2 – xiii |
| | – Dry Seal | |
| 4. | Polymer Dosing | B2 – xiii |
| | – Metering Pump, Polymer Preparation | B2 – xiv |
| 5. | Sludge Dewatering | B2 – xiv |

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX B2

Q. SLUDGE TREATMENT

6.	Sludge Digester	B2 – xiv
7.	Sludge Dryer	B2 – xiv
8.	Sludge Reception Facilities	B2 – xiv
9.	Sludge Screen	B2 – xiv
	– Mechanical	
10.	Sludge Tickener	B2 – xiv
	– Disc, Gravity Belt, Gravity, Rotary Drum, Screw, Table	
11.	Sludge Transfer	B2 – xv
	– Positive Displacement Pump, Centrifugal Pump	

R. TREATMENT SYSTEM

1.	Package Sewage Treatment System	B2 – xv
2.	Innovative System for Sewage Treatment	B2 – xvi
3.	Integrated Fixed Film Activated Sludge	B2 – xvi
4.	Membrane Bioreactor (MBR)	B2 – xvi
5.	Moving Bed Bioreactor (MBBR)	B2 – xvi
6.	Rotating Biological Contactor (RBC)	B2 – xvi
	– Biodrum, Submerged Contact Biodisc Aerator	
7.	Super Dissolved Oxygen (Bi-Act SDO)	B2 – xvi
8.	Trickling Filter	B2 – xvi

APPENDIX C1

A. WATER PIPES

1.	Polyethylene (PE) Pipes	C1 – i
2.	Unplasticized Poly(Vinyl Chloride) (PVC-U) Pipes	C1 – i
3.	Acrylonitrile-Butadiene-Styrene (ABS) Pipes	C1 – ii

B. WATER FITTINGS

1.	Unplasticized Poly(Vinyl Chloride) (PVC-U) Fittings	C1 – ii
2.	Acrylonitrile-Butadiene-Styrene (ABS) Fittings	C1 – ii

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX C1

C. SOLVENT CEMENT

- | | | |
|----|----------------------------|---------|
| 1. | ABS Solvent Cement | C1 – ii |
| 2. | PVC-U Solvent Cement | C1 – ii |

D. WATER TANK

- | | | |
|----|---|----------|
| 1. | Cylindrical Steel Tank | C1 – iii |
| | – Double Fold System | |
| 2. | Steel Tank with Lining or Coating | C1 – iii |
| 3. | Polyethylene (PE) Storage Tank | C1 – iii |
| 4. | Glass-fiber Reinforced Polyester (GRP) Sectional Water Tank | C1 – iv |
| 5. | Corrugated Steel Panels with PE-Lined Water Storage Tank | C1 – iv |
| 6. | Glass-fibre Reinforced Polyester (GRP) One-Piece Water Tank ... | C1 – v |
| 7. | Pressed Steel Tank | C1 – v |

E. VALVES

- | | | |
|----|-----------------------|--------|
| 1. | Butterfly Valve | C1 – v |
| 2. | Air Valve | C1 – v |
| 3. | Gate Valve | C1 – v |
| 4. | Check Valve | C1 – v |

F. CENTRIFUGAL PUMP

- | | | |
|----|------------------------|----------|
| 1. | All type of pump | C1 – vii |
|----|------------------------|----------|

G. CHEMICALS FOR WATER TREATMENT

- | | | |
|----|----------------------------|---------|
| 1. | All type of chemical | C1 – xi |
| 2. | Chlorine | C1 – xi |

H. LINING/COATING/WATERPROOFING/SEALANT/ADHERSIVE/SOLVENT CEMENT

- | | | |
|----|---|----------|
| 1. | All type of Lining / Coating / Waterproofing / Sealant / Adhesive /
Solvent Cement | C1 – xii |
|----|---|----------|

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX C2

A. SEWAGE CONVEYANCE

1. Poly(Vinyl Chloride) (PVC) Pipes C2 – i
2. Sewer Liner C2 – i
– Cured-in-place pipes (CIPP)
3. Sewer Liner C2 – i
– GRP Slip Lining, HDPE Lining

B. TREATMENT SYSTEM

1. Package Plant C2 – ii
2. Small Sewage Treatment System C2 – ii

C. AERATION

1. Diffuser C2 – ii

D. AIR SUPPLY

1. Air Blower C2 – iii

E. CLARIFIER / SEDIMENTATION

1. Scum Skimmer C2 – iii
2. Sludge Scrapper C2 – iii
3. Sludge Scrapper & Scum Skimmer C2 – iii

F. GRIT & GREASE REMOVAL

1. Grease Collector C2 – iv
2. Grit & Grease Collector C2 – iv
3. Grit Collector C2 – iv
4. Grit Transfer Pump C2 – iv

G. ODOUR CONTROL & TREATMENT

1. All type of Odour Control & Treatment C2 – iv

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

APPENDIX C2

H. RAW SEWAGE PUMPING

- 1. Pump (Centrifugal) C2 – v

I. SLUDGE TREATMENT

- 1. Gravity Thickener C2 – v
- 2. Sludge Transfer (Centrifugal) C2 – v

GUIDELINES FOR LISTING AND REGISTRATION OF PRODUCTS AND SUPPLIERS

1.0 INTRODUCTION

- 1.1 A supplier who supplies equipment, device, material, system or facility (here in collectively called as products) for use in water supply and sewerage services in Peninsular Malaysia, Federal Territories of Kuala Lumpur, Putrajaya and Labuan is required to list and register its standard products with SPAN.
- 1.2 Listing and registration with SPAN shall be made before the standard products supplied for any purpose of installing, working or operating and failure to supply a standard product is an offence under Section 129 of the Water Services Industry Act 2006 [Act 655].
- 1.3 In exercise of the powers conferred by section 180 of the Water Services Industry Act 2006 [Act 655], SPAN makes the Water Services Industry (Water Reticulation and Plumbing) Rules 2014.

2.0 DEFINITION

- 2.1 In this document, unless the context otherwise requires:
- (a) **A supplier** means a company constituted under the laws of Malaysia and carrying out business in Malaysia. A supplier can be a manufacturer, an importer, a local authorised representative or a distributor but does not include the retailer.
 - (b) **A product** is referred to any device, material, system, facility or equipment relating to water supply system, sewerage system, septic tank, individual internal sewerage piping or common internal sewerage piping.
 - (c) **A custody transfer meter** is referred to a meter that will be “used for trade” as defined in the Weights and Measure Act 1972 [Act 71].

- (d) **Certification body** means a competent certification body recognized by the Commission, whose activities and expertise include assessment of compliance of product to product standard.
- (e) **Conforming product** means product that complies with product standard and issued with a product certificate by a certification body.
- (f) **Guidelines** means the guidelines issued by the Commission on matters pertaining to supplier and standard product including any amendments thereto from time to time.
- (g) **Industry standard** means any standards issued by associations or organizations representing a specific industry.
- (h) **Non-conforming product** means product not having any product standard.
- (i) **Performance test standard** means any international performance standard, regional performance standard, national performance standard, Malaysia performance standard or testing standard for product recognised by the Commission.
- (j) **Product certificate** means certificate issued by a certification body to certify that a product conforms to product standard.
- (k) **Product standard** means any international standard, regional standard, national standard or Malaysia Standard for product recognised by the Commission.
- (l) **Standard product** means conforming product that are listed or non conforming product that are registered by Commission.
- (m) **Technical specification** means any specification document developed by an agency / supplier to specify technical requirements required.

3.0 PRODUCT CATEGORY

3.1 All products are classified into two (2) main categories as listed below:

Category A : *Products that can undergo full certification to any SPAN recognised standards/specifications by any Certification Bodies recognised by SPAN, and*

Category B : *Products without any standards/specifications or products with standards/specifications but full compliance to the standards/specification cannot be met. Products under this category are assessed based on recognised manufacturer specifications/standards or recognised performance testing or through a pilot project investigation.*

3.2 Product Categories A and B with their respective recognised standards are listed in Appendices A and B respectively, where the Appendices shall be referred together with the First Schedule [Rule 2 and Subrule 4(1)] of the Water Services Industry (Water Reticulation and Plumbing) Rules 2014 and any amendments thereto.

3.3 In the event of any inconsistency between the recognised standards and the provisions of the Water Services Industry (Water Reticulation and Plumbing) Rules 2014 relating to any matter, the provisions of these Rules shall prevail.

4.0 LISTING AND REGISTRATION OF SUPPLIERS

4.1 Listing is applied for suppliers whose products listed under product Category A. Listed suppliers will be given a letter of confirmation on the products that are listed with SPAN.

4.2 Registration is applied for suppliers whose products listed under product Category B. Registered suppliers will be given a certificate on confirming the registration with SPAN.

- 4.3 Only a company incorporated in Malaysia or such other supplier as may be decided by SPAN from time to time to be eligible to apply for listing or registration of supplier and product.
- 4.4 Except for chemical products, SPAN will not accept any application for same product from two (2) suppliers. The manufacturers/principals need to decide either one as their agent of the product.
- 4.5 All listed and registered suppliers with their products will be displayed at the SPAN website (www.span.gov.my).
- (a) Water Supply System:
- (iii) Category A:
<http://www.span.gov.my/index.php/en/register/supplier/water-supply-system/listing-reg-of-supplier/category-a-water>
- (iv) Category B:
<http://www.span.gov.my/index.php/en/register/supplier/water-supply-system/listing-reg-of-supplier/category-b-water>
- (b) Sewerage System
- (iii) Category A:
<http://www.span.gov.my/index.php/en/register/supplier/sewerage-system/listing-reg-of-supplier/category-a-sewerage>
- (iv) Category B:
<http://www.span.gov.my/index.php/en/register/supplier/sewerage-system/listing-reg-of-supplier/category-b-sewerage>

5.0 PROCEDURES FOR LISTING

5.1 Application

5.1.1 Application for listing shall be made via e-Registration at the SPAN website (http://eregistration.span.gov.my/Product_Internet/Login.aspx)

5.1.2 The following document shall be uploaded during the on-line application:

- (a) Form 9, 24 and 49 of Registered of Company;
- (b) Organization Management Chart;
- (c) Certificate of ISO Quality Management System (if any);
- (d) Letter of Appointment (as an agent or distributor);
- (e) Product Catalogue;
- (f) Product Certificate/Certificate of Conformity;
(shall showed the expiry date and the validity not less than three month)
- (g) Halal Certificate and Safety Data Sheet (SDS);
(for water treatment chemicals only)
- (h) Pattern Approval and Certificate of Approval Weighing/Measuring/ Weighing Devices/Measuring Devices which produced by National Metrology Institute of Malaysia (NMIM);
(for custody transfer meter only)
- (i) *Perakuan Pematuhan Standard (PPS)* issued by CIDB;
(for local & imported products of building materials which stated in the Fourth Schedule of Act 520 only)
- (j) Any other additional information, document, specification and requirements as may be required by SPAN.

5.1.3 Product certificate/certificate of conformity that is submitted to SPAN shall comply with requirements as specified in Section 7.

5.2 Processing

5.2.1 Application for listing will be processed **within 21 working days**.

5.2.2 The processing time include the time for reviewing and approving of a complete application, issuing of confirmation letter and listing of supplier at the SPAN website.

5.3 Approval

5.3.1 Approval for listing shall be made by the Senior Director of Industry Development Division of SPAN.

5.4 Confirmation of Listing

5.4.1 A confirmation letter will be issued to the suppliers confirming the listing of products with SPAN and will be displayed at the SPAN website.

5.5 Duration of Listing

5.5.1 Unless the listing is revoked by SPAN before its expiry, the listing shall be valid until the expiry of the validity of the product certificate for the standard product or such other duration as may be determined by SPAN.

5.5.2 Every listed product and supplier will be maintained at the SPAN website until the expiry date of the product certificate.

5.5.3 However, to facilitate any unforeseen delay in the renewal of conforming product certificate, the expired listing will remain valid in SPAN listing for an additional one month.

5.6 Renewal of Listing

5.6.1 In order to maintain listing, the suppliers shall submit the renewed product certificate through e-Registration before the expiry date.

5.6.2 Supplier will be delisted if SPAN does not receive the renewed certificate within the one (1) month extended period.

5.7 Suspension or Revocation of Listing

5.7.1 SPAN may by a written notice suspend or revoke the listing if:

- (a) The supplier fails to comply with any of the conditions imposed by SPAN or any of the requirements specified in the guidelines;
- (b) The product certificate for the standard product is revoked or suspended by a certification body;
- (c) The supplier fails to comply with any of the provisions of the Act, these Guidelines or any subsidiary legislation under the Act;
- (d) SPAN receives any complaint regarding the supplier or the standard product;
- (e) The supplier has fraudulently, improperly or illegally obtained the listing;
- (f) The information, data, document or product certificate provided to SPAN is found to be in error;
- (g) The supplier ceases to carry on the business in respect of which he is listed;
- (h) The supplier has been adjudicated a bankrupt; or
- (i) There has been any act or default on the part of the supplier or there has been a change in the circumstances such that the supplier would no longer be entitled to be approved for listing under these Guidelines.

5.7.2 SPAN may require the supplier to suspend the supply of the product pending the decision on the suspension or revocation from the date of the notice.

5.7.3 The supplier shall not be entitled to any form of compensation from SPAN for any loss caused to the supplier due to the suspension or revocation under these Guidelines.

5.8 Transfer of Listing

5.8.1 The listing is personal to the supplier and shall not be assigned or transferred to any other party.

6.0 PROCEDURES FOR REGISTRATION

6.1 Application

6.1.1 Application for registration shall be made via e-Registration at SPAN website (http://eregistration.span.gov.my/Product_Internet/Login.aspx).

6.1.2 The following document shall be uploaded during the on-line application:

- (a) Form 9,24 and 49 of Registered of Company;
- (b) Organizational management chart;
- (c) Certificate of ISO Quality Management System (if any);
- (d) Letter of Appointment (as an agent or a distributor);
- (e) Product catalogue;
- (f) Technical specification;
- (g) Design criteria;
- (h) Engineering drawing;
- (i) Operation manual;
- (j) Test Report/Performance Report/Report of Pilot Project;
- (k) Halal Certificate and Safety Data Sheet (SDS);
(for water treatment chemicals only)
- (l) Pattern Approval and Certificate of Approval Weighing/Measuring/ Weighing Devices/Measuring Devices which produced by National Metrology Institute of Malaysia (NMIM);
(for custody transfer meter only)
- (m) Any other additional information, document, specification and requirements as may be required SPAN.

6.1.3 Testing or performance report that is submitted to SPAN shall comply with requirements as specified in Section 8.

6.2 Processing

6.2.1 Certificate of registration will be issued to the successful applicant within **21 working days** from the date of receipt of a complete application.

6.2.2 However, for products that need to be assessed through pilot project investigation, the processing time depends on the required time to complete the project. Certificate of registration will only be issued to the suppliers after the pilot project demonstrated full compliance to requirements determined by SPAN.

6.3 Approval

6.3.1 Approval for registration shall be made by the Senior Director of Industry Development Division of SPAN.

6.4 Certificate of Registration

6.4.1 An approved applicant will be displayed at the SPAN website and will be issued with a Certificate of Registration signed by Chief Executive Officer of SPAN that consists of the following information:

- (a) details of product approved;
- (b) details of supplier of the product;
- (c) general conditions of the registration; and
- (d) additional requirements or conditions for specific products of the registration (if any).

6.4.2 The general conditions apply to all registered suppliers are:

- (a) the approval is applicable to Peninsular Malaysia and Federal Territories Kuala Lumpur, Putrajaya and Labuan only;
- (b) the supplier will ensure that only registered products are supplied to the user;
- (c) SPAN also reserve right to conduct compliance audit on products at any time within the listing/registration period and the supplier shall give full cooperation during the audit,

- (d) the supplier shall comply with other instructions issued by SPAN from time to time, and
- (e) the supplier shall update record of supply or record of installation of products to the water services industry through e-Registration.

6.4.3 In certain circumstances and depending on type of product, additional requirements or conditions for specific products as listed in the certificate of registration will be imposed on suppliers.

6.5 Validity of Certificate of Registration

6.5.1 The validity period of certificate of registration will be determined by SPAN and shall be valid for a period as specified in the certificate.

6.5.2 However, to facilitate any unforeseen delay, the expired registration will remain valid in SPAN registration for an additional one month.

6.6 Renewal of Certificate Registration

6.6.1 Every application for renewal of certificate shall be made online within two months before the end of the expiry date. Either, SPAN has a right to delete any application which submitted earlier from the period.

6.6.2 Supplier will be deregistered if SPAN does not receive the renewed certificate within the one (1) month extended period.

6.7 Suspension or Revocation of Registration

6.7.1 SPAN may by a written notice suspend or revoke the registration if:

- (a) The supplier fails to comply with any of the conditions imposed by SPAN or any of the requirements specified in the guidelines;
- (b) The product certificate for the product is revoked or suspended by a certification body;

- (c) The supplier fails to comply with any of the provisions of the Act, these Guidelines or any subsidiary legislation under the Act;
- (d) SPAN receives any complaint regarding the supplier or the product;
- (e) The supplier has fraudulently, improperly or illegally obtained the registration;
- (f) The information, data, document, report or certificate provided to SPAN is found to be in error;
- (g) The supplier ceases to carry on the business in respect of which he is registered;
- (h) The supplier has been adjudicated a bankrupt; or
- (i) There has been any act or default on the part of the supplier or there has been a change in the circumstances such that the supplier would no longer be entitled to be approved for registration under these Guidelines.

6.7.2 SPAN may require the supplier to suspend the supply of the product pending the decision on the suspension or revocation from the date of the notice.

6.7.3 The supplier shall not be entitled to any form of compensation from SPAN for any loss caused to the supplier due to the suspension or revocation under these Guidelines.

6.8 Transfer of Registration

6.8.1 The registration is personal to the supplier and shall not be assigned or transferred to any other party.

7.0 PRODUCT CERTIFICATE AND CERTIFICATION BODIES

- 7.1 Application for listing shall be accompanied with a product certificate/certificate of conformity to confirm the compliance of products to SPAN recognised standards as specified in Appendix A.
- 7.2 The certificate shall be written either in English or Bahasa Malaysia. Certificate in other languages shall be translated into either in English or Bahasa Malaysia before submission to SPAN. Translation can be made by any of the following:
- (a) Malaysian National Institute of Translation (ITBM);
 - (b) ITBM registered translators;
 - (c) The embassy of the country of origin of products;
 - (d) Translator / Malaysia Court Translator;
 - (e) The Institute of Language and Literature (DBP);
 - (f) The recognize university of the country of origin of products;
 - (g) Local university that have expertise in Language & Linguistic; and
 - (h) Translator whom appointed/certified by foreign Embassy/High Commission to Malaysia.
- 7.3 Certificates from any of the following certification bodies (CB's) or organisations are recognised by SPAN:
- (a) CBs that are accredited by Standard Malaysia under the Accreditation of Certification Bodies (ACB) Scheme,
 - (b) CBs that are accredited by an accreditation body that is part of the international and regional mutual global recognition arrangement Multi Lateral Recognition (MLA) implemented by Pacific Accreditation Cooperation (PAC) and International Accreditation Forum (IAF), and
 - (c) Organisations that are recognised by SPAN as deem competent to carry out product certification.
- 7.4 Any supplier whose provide product certificate which have validity more than one (1) year, shall submit yearly surveillance audit report during renewal application.

8.0 TEST REPORT AND TESTING LABORATORIES

- 8.1 Application for registration for most products under product Category B shall be accompanied with a test report to show compliance with requirements as specified in Appendix B.
- 8.2 Test report to be submitted for registration shall be written either in English or Bahasa Malaysia. Report in other languages shall be translated into either in English or Bahasa Malaysia before submission to SPAN. Translation can be made by any of the following:
- (a) Malaysian National Institute of Translation (ITBM);
 - (b) ITBM registered translators;
 - (c) The embassy of the country of origin of products;
 - (d) Translator / Malaysia Court Translator;
 - (e) The Institute of Language and Literature (DBP);
 - (f) The recognize university of the country of origin of products;
 - (g) Local university that have expertise in Language & Linguistic; and
 - (h) Translator whom appointed/certified by foreign Embassy/High Commission to Malaysia.
- 8.3 The validity of the test report shall be within five (5) years from the date of the report issued.
- 8.4 Test reports from any of the following laboratories are recognised by SPAN:
- (a) Labs that are accredited by Standard Malaysia under the Skim Akreditasi Makmal Malaysia (SAMM),
 - (b) Labs that have been accredited by an accreditation body that is part of the international and regional mutual global recognition arrangement (MRA) implemented by International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Laboratory Accreditation Cooperation (APLAC), and
 - (c) Organisations that are recognised by SPAN as deem competent to carry out testing that was specified by SPAN.

9.0 GUIDANCE TO CONDUCT A PILOT PROJECT

- 9.1 SPAN may require a non-conforming product to be assessed through a pilot project.
- 9.2 The supplier shall carry out the pilot project at a venue approved by the SPAN before proceeding with the implementation of the pilot project.
- 9.3 SPAN shall stipulate the terms and procedures to carry out the pilot project and the criteria to measure the safety, quality and performance of the non conforming product.
- 9.4 The supplier shall appoint assessment body approved by SPAN to supervise the pilot project. The list of Third Parties (Independent Agency) certified and endorsed by SPAN for the purpose of monitoring and verification of Pilot Project are:
- (a) Licensee or a person recognised by SPAN for Water Supply System:
 - (i) water supply operators
 - (ii) water treatment plant operated by concession company
 - (b) Licensee or a person recognised by SPAN for sewerage services:
 - (i) Indah Water Konsortium Sdn. Bhd.
 - (ii) Majaari Services Sdn. Bhd.
 - (iii) Any sewerage treatment plant operated by private sector
 - (c) Testing Body recognised by the Department of Standards Malaysia:
 - (i) SIRIM QAS International Sdn. Bhd.
 - (ii) IKRAM QA Services Sdn. Bhd.
 - (iii) CIDB Holdings Sdn. Bhd.
 - (d) Higher Education Institutions recognised by SPAN:
 - (i) Research Management Center (RMC), Universiti Putra Malaysia (UPM)
 - (ii) University of Malaya Consultancy Unit (UPUM), University of Malaya (UM)
 - (iii) Research Management Institute, Universiti Teknologi MARA (UiTM)

- (iv) Development of Environmental Engineering, Faculty of Civil Engineering, University of Technology Malaysia (UTM)
- (v) Pusat Pengajian Kejuruteraan Alam Sekitar (PPKAS), Universiti of Malaysia Perlis (UniMAP)

9.6 Third Party (Independent Agency) for the purpose of sampling:

(a) Testing Laboratory accredited by the Department of Standards Malaysia Laboratory Accreditation Scheme of Malaysia (SAMM)

(i) List of accredited laboratories can be obtained from <http://www.jsm.gov.my/cab-directories>

9.7 The assessment body supervising the pilot project shall issue a conformity assessment report if the non performing product conforms to the safety, quality and performance requirements stipulated by the SPAN.

9.8 For detail information and procedure about pilot project can be refer to '*Manual Pelaksanaan Projek Perintis*' which can be download from SPAN website.

10.0 MANUFACTURER'S STANDARD

10.1 SPAN may require a non conforming product to be assessed through evaluation of the specification, test report and performance report submitted by the manufacturer of the non-conforming product.

10.2 SPAN shall evaluate the specification, test report or performance report submitted by the manufacturer and if the specification, test report or performance report meet the requirements for the non-conforming product, SPAN shall approve that product for registration.

11.0 COMPLIANCE TO SPAN ADDITIONAL REQUIREMENTS OR CONDITIONS FOR SPECIFIC PRODUCTS

- 11.1 In addition to compliance to standards, SPAN also imposed additional requirements or conditions on specific products as specified in Appendix C.
- 11.2 Compliance to the additional requirements or conditions is a part of listing and registration procedures.

12.0 FEES OF APPLICATION

- 12.1 No fees are imposed for the application of listing or registration of products and suppliers at this moment.
- 12.2 However, SPAN reserves the right to impose any fees or charges at anytime for the registration and listing of the suppliers.

13.0 USE OF SPAN LOGO

- 13.1 Use of SPAN logo on product or marketing material is not allowed.
- 13.2 However, the supplier may quote “product has been listed/registered with SPAN (state listing/registration number)” on marketing materials.
- 13.3 Statement connoting that the product is “SPAN certified” or “SPAN approved” are prohibited.
- 13.4 SPAN have right to suspend or revoke the listing or registration and take legal action if supplier still using the logo after being informed.

14.0 OFFENCE FOR GIVING FALSE OR MISLEADING INFORMATION

- 14.1 It is an offence under Section 130 of the Water Services Industry Act 2006 for “a *person who discloses or provides information to the Commission or its authorized officers that he knows or has reason to believe is false or misleading commits an offence and shall, on conviction, be liable to a **fine not exceeding two hundred thousand ringgit** or to **imprisonment for a term not exceeding two years** or to both.*”
- 14.2 SPAN also has the right not to process an application or to cancel a listing or a registration if it is believed that false or misleading information is given by the suppliers.

15.0 ENQUIRIES

- 15.1 For any further information about listing and registration of products and suppliers, please contact Industry Development Division of SPAN at e-mail: eregistrationadmin@span.gov.my or telephone: 03 – 8317 9373, 03 – 8317 9376 or 03 – 8317 9377.

APPENDIX A1

**WATER SUPPLY
SYSTEM
(CATEGORY A)**

APPENDIX A

PRODUCT CATEGORY A AND THE RECOGNIZED STANDARDS

Listing of product Category A requires the products to have undergone full certification by recognised certification bodies and shall be referred together with the First Schedule [Rule 2 and Subrule 4(1)] of the Water Services Industry (Water Reticulation and Plumbing) Rules 2014 and any amendments thereto.

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(A) Water Pipes				
1	Polyethylene (PE) Pipes	MS 1058: Part 2: 2005	Specification for Polyethylene (PE) piping systems for water supply. Part 2: Pipes (Forth Revision)	01 Jan 2008
		ISO 4427-2:2007: AMD 1:2011	Plastics piping systems – Polyethylene (PE) pipes and fittings for water supply – Part 2: Pipes <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
		DIN 8075 (2011-12)	Polyethylene (PE) Pipes – PE 80, PE 100 – General quality requirements, testing <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
2	PE-RT Pipes	MS 2508-2:2012	Plastics piping systems for hot and cold water installations – Polyethylene of Raised Temperature Resistance (PE-RT) Part 2: Pipes (ISO 22391-2:2009, MOD)	01 Jan 2013

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	PE-RT Pipes <i>(continued)</i>	ISO 22391-2:2009	Plastics piping systems for hot and cold water installations – Polyethylene of Raised Temperature Resistance (PE-RT). Part 2: Pipes <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
3	PE-RT/AL/PE-RT Pipes	BS EN ISO 21003-1:2008	Multilayer piping systems for hot and cold water installations inside buildings. General	01 June 2013
4	PE-X Pipes	MS 1736:Part 2:2004	Plastics piping systems for hot and cold water installations. Cross-linked Polyethylene (PE-X). Part 2: Pipes	01 Jan 2008
		ISO 15875-2:2003	Plastics piping systems for hot and cold water installations. Cross-linked Polyethylene (PE-X) - Part 2: Pipes <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	10 Sept 2014
		AS/NZS2492:2007	Cross-linked Polyethylene (PE-X) pipes for pressure applications <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	10 Sept 2014
5	PE-X/AL/PE-X Pipes	AS 4176:1994	Polyethylene / Aluminium and Cross-linked Polyethylene / Aluminium Macro-composite pipe systems for pressure applications	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	PE-X/AL/PE-X Pipes <i>(continued)</i>	AS 4176.2:2010	Multilayer pipes for pressure applications – Multilayer piping systems for hot and cold water plumbing applications – Pipes	10 Sept 2014
6	PE Aluminium (PE-AL-PE) Pipes	ASTM F1282-03	Standard specification for Polyethylene / Aluminium / Polyethylene (PE-AL-PE) composite pressure pipe	01 Jan 2008
7	Unplasticized Poly(Vinyl Chloride) (PVC-U) Pipes	MS 628: Part 1: 1999 AMD.1:2001 & AMD.2:2002	Specification for Unplasticised PVC (uPVC) pipes for water supply: Part 1: Pipes (1 st revision)	01 Jan 2008
		BS EN ISO 1452-2: 2009	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure. Unplasticized Poly(Vinyl Chloride) (PVC-U). Pipes <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
8	Solvent cement for PVC-U piping system	MS 628: Part 2: Section 2.2:1999	Specification for Unplasticised PVC (UPVC) pipes for water supply. Part 2: Joints and fittings for use with Unplasticised PVC Pipes. Section 2.2: Solvent Cement	01 Jan 2008
9	Chlorinated Poly(Vinyl Chloride) (PVC-C) Pipes	MS 2045:2007	Chlorinated Poly (Vinyl Chloride) (PVC-C) plastic hot and cold water distribution systems – Specification	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Chlorinated Poly(Vinyl Chloride) (PVC-C) Pipes <i>(continued)</i>	MS 1757: Part 1: 2008	Chlorinated Poly(Vinyl Chloride) (PVC-C) – Plastic Piping System – Part 1: Specification for Schedules 40 & 80 Pipes	01 June 2009
		ASTM D2846 / D2846M-09b	Standard specification for Chlorinated Poly(Vinyl Chloride) (cPVC) plastic hot and cold water distribution system <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
10	Oriented Poly(Vinyl Chloride) (PVC-O) Pipes	ISO 16422:2006	Pipes and joints made of Oriented Unplasticised Poly (Vinyl Chloride) (PVC-O) for the conveyance of water under pressure – Specifications	10 Sept 2014
11	Acrylonitrile-Butadiene-Styrene (ABS) Pipes	MS 1419: Part 1: 2007	Acrylonitrile-Butadiene Styrene (ABS) piping systems for pressure applications – Part 1: Specification for compounds, pipes and fittings (First Revision)	01 Jan 2008
		AS/NZS 3518:2004	Acrylonitrile Butadiene Styrene (ABS) compounds, pipes and fittings for pressure applications <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
12	Solvent cement for ABS piping system	MS 1419: Part 3: 1997	Specification for Acrylonitrile Butadiene Styrene (ABS) pipes and fittings for pressure applications Part 3: Solvent cement and priming (cleaning) fluids for use with ABS pipes and fittings	01 Jan 2008
13	Polypropylene (PP) Pipes	MS 2286-2:2012	Plastics piping systems for hot and cold water installations – Polypropylene (PP) – Part 2: Pipes (ISO 15874-2:2003, Amd.1:2007, MOD)	01 Jan 2013
		ISO 15874-2:2013	Plastics piping systems for hot and cold water installations – Polypropylene (PP) Part 2: Pipes <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	15 Apr 2015
		DIN 8078 (2008-09)	Polypropylene (PP) Pipes – PP-H, PP-B, PP-R, PP-RCT. General quality requirements and testing <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 June 2009
14	Polybutylene (PB) Pipes	MS ISO 15876-2: 2004,AMD.1:2009	Plastics piping systems for hot and cold water installations – Polybutylene (PB) Part 2: Pipes (ISO 15876-2:2003, MOD)	01 June 2010

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Polybutylene (PB) Pipes <i>(continued)</i>	AS/NZS 2642-2:2008	Polybutylene (PB) plumbing pipe systems – Polybutylene (PB) pipe for hot and cold water applications <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 June 2009
15	Glass Reinforced Plastic (GRP) Pipes	ISO 10639:2004	Plastics piping system for pressure and non-pressure water supply – Glass Reinforced Thermosetting Plastics (GRP) systems based on Unsaturated Polyester (UP) resin	01 Jan 2008
		BS EN 1796:2013	Plastics piping system for water supply with or without pressure. – Glass Reinforced Thermosetting Plastics (GRP) based on Unsaturated Polyester resin	10 Sept 2014
16	Steel Pipes	SPAN TS 21827:2013	Specification for Steel Pipes, Fittings and Joints for water and sewage Part 1: Technical Delivery Requirements Part 2: Tube Requirements	15 June 2013
		MS 1968:2007 (confirmed 2011)	Non-Alloy Steel Tubes and Fittings for the conveyance of aqueous liquids including water for human consumption – Technical delivery conditions	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Steel Pipes <i>(continued)</i>	BS EN 10224:2002	Non-Alloy Steel Tubes and Fittings for the conveyance of water and other – Technical delivery conditions <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
17	Stainless Steel (SS) Pipes – Industrial	MS 1841:2010	Seamless, welded and heavily cold austenitic Stainless Steel Pipes – Specification (First Revision)	01 June 2011
		ASTM A312 / A312M-2014B	Standard specification for seamless, welded, and heavily cold worked austenitic Stainless Steel Pipes <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Mar 2016
18	Stainless Steel (SS) Light Gauge Tubes	MS 1988:2007 (Confirmed: 2011)	Welded Stainless Steel Tubes for the conveyance of water and other aqueous liquids – Technical delivery conditions and includes amendment A1	01 Jan 2008
		BS EN 10312:2002	Welded Stainless Steel Tubes for the conveyance of aqueous liquids including water for human consumption. technical delivery conditions <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
		JIS G 3448:2012	Light Gauge Stainless Steel Tubes for ordinary piping <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
19	Ductile Iron (DI) Pipes	MS 1919:2013	Ductile Iron pipes, fittings, accessories and their joints for water pipelines – Requirements and test methods (First Revision)	01 Jan 2008
		BS EN 545:2010	Ductile Iron pipes, fittings, accessories and their joints for water pipelines – Requirement and test method <i>**This standard is recognized for SPAN product listing until 31st December 2017 only.</i>	01 Jan 2011
		BS EN 545:2006	Ductile Iron pipes, fittings, accessories and their joints for water pipelines – Requirement and test method <i>**This standard is recognized for SPAN product listing until 30th Nov 2017 only</i>	01 Mar 2016
20	Copper Tubes	BS EN 1057:2006+A1:2010	Copper and copper alloys. Seamless, round copper tubes for water and gas in sanitary and heating applications	01 Jan 2008
21	Steel Pipe with Plastic Lining	CJ/T 136:2001	Steel Pipes of lining plastic for water supply	10 Sept 2014

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(B) Water Fittings				
1	Polyethylene (PE) Fittings	MS 1058: Part 3: 2006	Polyethylene (PE) piping systems for water supply – Part 3: Fittings	01 Jan 2008
		AS/NZS 4129:2008	Fittings for Polyethylene (PE) pipes for pressure applications <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2009
		BS EN 12201-3: 2011	Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE). Fittings <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
2	HDPE Joints Assemblies and Fittings	DIN 16963-5 (1999-10)	Pipe fittings and joints and assemblies for PE 80 and PE 100 Polyethylene pressure pipes – Part 5: General Quality Requirements and Testing	31 Dec 2013
3	PE-X Fittings	MS 1736: Part 3: 2004	Plastics piping systems for hot and cold water installation – Crosslinked Polyethylene (PE-X) Part 3: Fittings	01 Jan 2008
		AS 2537:1994	Mechanical jointing fittings for use with Cross-linked Polyethylene (PE-X) pipe for hot and cold water applications <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	10 Sept 2014

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
4	PE-RT Fittings	MS 2508-3:2012	Plastics piping systems for hot and cold water installations – Polyethylene of Raised Temperature Resistance (PE-RT) – Part 3: Fittings (ISO 22391-3: 2009, MOD)	01 Jan 2008
		ISO 22391-3:2007	Plastics piping systems for hot and cold water installations – Polyethylene of Raised Temperature Resistance (PE-RT) – Part 3: Fittings <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
5	PE-RT/AL/PE-RT Fittings	ISO 21003–3:2008	Multilayer piping systems for hot and cold water installations inside buildings – Part 3: Fittings	01 Jan 2009
6	PPO and Macro-Composite Fittings	AS 4176:1994	Polyethylene / Aluminium and Cross-linked Polyethylene / Aluminium Macro-composite pipe systems for pressure applications	10 Sept 2014
		AS 4176.3:2010	Multilayer pipes for pressure applications – Multilayer piping systems for hot and cold water plumbing applications – Fittings	10 Sept 2014

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
7	Nylon Joints and Compression Fittings for use with HDPE Pipes	ISO 14236:2000	Plastics pipes and fittings – Mechanical joint compression fittings for use with Polyethylene pressure pipes in water supply systems	01 Jan 2008
		BS 5114:1975 (1981) Amd.2-1987	Specification for performance requirements for joints and compression fittings for use with Polyethylene Pipes	01 Jan 2008
8	Polypropylene (PP) Fittings	MS 2286-3:2012	Plastics piping systems for hot and cold water installations – Polypropylene (PP) – Part 3: Fittings (ISO 15874-3:2003, FDAM 1:2009, MOD)	15 June 2013
		ISO 15874-3:2013	Plastics piping systems for hot and cold water installations – Polypropylene (PP) – Part 3: Fittings <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	15 Apr 2015
		DIN 16962-5 (2000-04)	Pipe fittings and joint assemblies for Polypropylene (PP) pressure pipes - Part 5: General quality requirements and testing <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
9	Polybutylene (PB) Fittings	MS ISO 15876–3: 2004	Plastics piping systems for hot and cold water installations – Polybutylene (PB) Part 3: Fittings	01 Jan 2008
		AS/NZS 2642-3: 2008	Polybutylene pipe systems – Mechanical jointing fittings for use with Polybutylene (PB) pipes for hot and cold water applications <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2009
10	Unplasticized Poly(Vinyl Chloride) (PVC-U) Joints/Fittings	MS 628:Part 2:Section 2.1:1999	Specification for Unplasticised PVC (uPVC) pipes for water supply. Part 2: Joints and Fittings for use with uPVC Pipes Section 2.1: uPVC Joints and Fittings	01 Jan 2008
		BS EN ISO:1452-3: 2010	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure. Unplasticized Poly(Vinyl Chloride) (PVC-U) Fittings <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2010
		BS 4346-1:1969	Joints and fittings for use with Unplasticised PVC pressure pipes. Injection moulded Unplasticised PVC fittings for solvent welding for use with pressure pipes, including potable water supply <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2010

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Unplasticized Poly(Vinyl Chloride) (PVC-U) Joints/Fittings <i>(continued)</i>	BS 4346-2:1970	Joint and fittings for use with Unplasticised PVC pressure pipes. Mechanical joints and fittings, principally of Unplasticised PVC <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2010
11	Chlorinated Poly(Vinyl Chloride) (PVC-C) Fittings	MS 2045:2007	Chlorinated Poly (Vinyl Chloride) (PVC-C) plastic hot and cold water distribution systems – Specification.	01 Jan 2008
		MS 1757: Part 2: 2008	Chlorinated Poly (Vinyl Chloride) (PVC-C) – Plastic Piping System – Part 2: Specification for Schedule 40 Socket-type pipe fittings.	01 Jan 2009
		MS 1757: Part 3: 2008	Chlorinated Poly (Vinyl Chloride) (PVC-C) – Plastic Piping System – Part 3: Specification for Schedule 80 Pipe Fittings.	01 Jan 2009
		ASTM D2846 / D2846M-09b	Standard specification for Chlorinated Polyvinyl Chloride (cPVC) plastic hot and cold water distribution system. <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
12	Oriented Poly(Vinyl Chloride) (PVC-O) Fittings	ISO 16422:2006	Pipes and joints made of Oriented Unplasticized Poly(Vinyl Chloride) (PVC-O) for the conveyance of water under pressure – Specifications	10 Sept 2014
13	Acrylonitrile-Butadiene-Styrene (ABS) Fittings	MS 1419: Part 1: 2007	Acrylonitrile-Butadiene Styrene (ABS) piping systems for pressure applications – Part 1: Specification for compounds, pipes and fittings (First Revision)	01 Jan 2008
		AS/NZS 3518:2004	Acrylonitrile Butadiene Styrene (ABS) compounds, pipes and fittings for pressure application <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
14	Glass Reinforced Plastic (GRP) Fittings	ISO 10639:2004	Plastics piping system for pressure and non-pressure water supply – Glass Reinforced Thermosetting Plastics (GRP) Systems based on Unsaturated Polyester (UP) resin	01 Jan 2008
		BS EN 1796:2013	Plastics piping system for water supply with or without pressure – Glass Reinforced Thermosetting Plastics (GRP) based on Unsaturated Polyester resin	10 Sept 2014

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
15	Steel Pipe Specials	SPAN TS 21827:2013	Specification for Steel Pipes, fittings and joints for water and sewerage Part 1: Technical delivery requirements Part 2: Tube requirements	15 June 2013
		MS 1968:2007	Non-alloy steel tubes and fittings for the conveyance of aqueous liquids including water for human consumption – Technical delivery conditions	01 Jan 2008
16	Stainless Steel (SS) Threaded Fittings	MS 2495:2012	Pipework – Stainless steel fittings threaded in accordance with MS 1989: Part 1 (ISO 4144:2003, MOD)	01 Jan 2013
		ISO 4144:2003	Pipework – Stainless Steel fittings threaded in accordance with ISO 7-1 <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008
17	Stainless Steel (SS) Welded Fittings	MS 1842:2010	Wrought Austenitic Stainless Steel piping fittings – Specification (First Revision)	01 Jan 2011
		ASTM 403/A403M-13a	Standard specification for Wrought Austenitic Stainless Steel piping fittings <i>**This standard is recognized for SPAN product listing until 31st December 2019 only.</i>	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
18	Ductile Iron Fittings	MS 1919:2006	Ductile Iron pipes, fittings, accessories and their joints for water pipelines – Requirement and test method	01 Jan 2008
		EN 12842:2012	Ductile Iron Fittings for PVC-U or PE piping systems. Requirement and test method	01 Mar 2016
		BS EN 545:2010	Ductile Iron pipes, fittings, accessories and their joints for water pipelines – Requirement and test method <i>**This standard is recognized for SPAN product listing until 31st December 2017 only.</i>	01 Jan 2011
		BS EN 545:2006	Ductile Iron Pipes, Fittings, accessories and their joints for water pipelines – Requirement and test method <i>**This standard is recognized for SPAN product listing until 30th November 2017 only</i>	01 Mar 2016
19	Copper & Copper Alloys Fittings	BS EN 1254-1: 1998	Copper and Copper Alloys. plumbing fittings. fittings with short ends for capillary brazing to Copper Tubes.	01 Jan 2008
		BS EN 1254-2: 1998	Copper and Copper Alloys. plumbing fittings. Fittings with compression ends for use with Copper Tubes.	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Copper & Copper Alloys Fittings <i>(continued)</i>	BS EN 1254-3: 1998	Copper and Copper Alloys. Plumbing fittings. Fittings with compression ends for use with plastic pipes.	01 Jan 2008
		BS EN 1254-4: 1998	Copper and Copper Alloys. Plumbing fittings. Fittings combining other end connections with capillary or compression ends.	01 Jan 2008
		BS 8537:2010	Copper and Copper Alloys. Plumbing fittings. Specification for press ends of plumbing fittings for use with metallic tubes	10 Sept 2014
		AS 3688:2005	Water supply – Metallic fittings and end connectors	15 Apr 2015
20	Steel Fittings with Plastic Lining	CJ/T 137:2001	Malleable Iron Threaded Fittings of Lining Plastic for water supply.	10 Sept 2014
21	Variable Adapter	Spesifikasi JKR 20200-0045-99	JKR Standard Specification for Detachable Joints and Variable Adaptors for uPVC, Ductile Iron and AC Pipes.	01 Jan 2008
22	Flange Adapter	Spesifikasi JKR 20200-0048-99	JKR Standard Specification for Flexible Couplings and Flange Adaptors	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
23	Flexible Coupling	Spesifikasi JKR 20200-0048-99	JKR Standard Specification for Flexible Couplings and Flange Adaptors	01 Jan 2008
25	Detachable Joint	Spesifikasi JKR 20200-0045-99	JKR Standard Specification for Detachable Joints and Variable Adaptors for uPVC, Ductile Iron and AC Pipes	01 Jan 2008
25	Ferrous Saddle	Spesifikasi JKR 20200-0044-99	JKR Standard Specification for Ferrous Saddles	01 Jan 2008
		JKR Spec. 20200-0184-04	JKR Standard Specification for Ferrous Saddles	10 Sept 2014
26	Pillar Hydrant	MS 1395:2011	Pillar Fire Hydrants: Specification (First Revision)	01 Jan 2008
		Spesifikasi JKR 20200-0042-99	JKR Standard Specification for Ductile Iron Pillar Hydrants	01 Jan 2008
27	Ductile Iron (DI) Strainer	Spesifikasi JKR 20200-0100-01	JKR Standard Specification for Ductile Iron Y and T Strainers (DN 50 to DN 600)	01 Jan 2008
28	Swivel Ferrules	Spesifikasi JKR 20200-0174-04	JKR Standard Specification for Ferrules	01 Jan 2008
29	Under Pressure Vertical Ferrules	MS 1396:2006	Ferrules – Specification (First Revision)	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
30	Polypropylene (PP) Tapping Ferrules	Spesifikasi JKR 20200-0055-99	JKR Standard Specification for Polypropylene (PP) Tapping Ferrules to be used with Polyethylene (PE) and uPVC Pipes	01 Jan 2008
31	Manhole Cover	BS EN 124:1994	Gully Tops and Manhole Tops for vehicular and pedestrian areas. Design requirements, type testing, marking, quality control	01 Jan 2008
32	Polypropylene (PP) Clamp Saddle	Spesifikasi JKR No. 1-95 (BA)	JKR Standard Specification for Polypropylene (PP) Clamp Saddle to be used with Polyethylene (PE) Pipe	15 April 2015
33	Vulcanized Rubber Pipe Joint Seals	BS EN 681-1:1996	Elastomeric Seals – Material requirements for pipe joint seals used in water and drainage application. Part 1: Vulcanized Rubber	15 April 2015
34	Steel Flange	BS EN 1092-1: 2007+A1:2013	Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, PN Designated - Part 1: Steel Flanges	01 Mar 2016
		BS EN 1759-1: 2004	Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, class-designated. Steel flanges, NPS 1/2 to 24	01 Mar 2016

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(C) Service Reservoir				
1	Cylindrical Double Fold System	BS 5950-1:2000	Structural Use of Steelwork in Building Part 1: Code of practice for design rolled and welded section	01 Jan 2008
2	Glass Coated/ Glass Lined/ Glass Fused/ Epoxy Coated/ Epoxy Lining	ISO 28765:2008	Vitreous and Porcelain Enamels – Design of bolted steel tanks for the storage treatment of water or municipal or industrial effluents and sludges	01 Jan 2008
		AWWA D103-97 AWWA D103-09	Factory-Coated Bolted Steel Tanks for Water Storage	01 Jan 2008
(D) Storage Cistern				
1	Cylindrical Double Fold System	BS 5950-1:2000	Structural use of steelwork in building Part 1: Code of practice for design – Rolled and welded section	01 Jan 2008
2	Glass Coated/ Glass Lined/ Glass Fused/ Epoxy Coated/ Epoxy Lining	ISO 28765:2008	Vitreous and Porcelain Enamels – Design of bolted steel tanks for the storage treatment of water or municipal or industrial effluents and sludges	01 Jan 2009
		AWWA D103-97 AWWA D103-09	Factory-Coated Bolted Steel Tanks for water storage	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
3	PE/HDPE Tanks Storage Tank	MS 1225: Part 1: 2007 AMD 1:2011	Polyethylene (PE) Tanks for Cold Water Storage; Part 1: Capacity up to 600G (Second Revision)	01 Jan 2008
		MS 1225: Part 2: 2006 AMD.1:2011	Polyethylene (PE) Tanks for Cold Water Storage; Part 2: Capacity more than 600G (First Revision)	01 Jan 2008
4	GRP/FRP Sectional Water Tank	MS 1390:2010	Glass-fibre Reinforced Polyester panels and panel water tanks - Specification (First Revision)	01 Jan 2011
5	Corrugated Steel Panel with Polyethylene-Lined Water Storage Tank	BS 1449-1.1:1991	Steel Plate, Sheet & Strip. Carbon and carbon-manganese plate, sheet and strip general specification	01 Jan 2008
		SS 245:1995 (Cl. 10.2.1 & Cl. 10.2.2)	Specification for glass reinforced polyester sectional water tank	01 Jan 2008
6	FRP One-Piece Water Tank	MS 1241:2011	One Piece Glass-fibre Reinforced Polyester (GRP) water tanks nominal capacity of 100 000 litres and below -Specification (First Revision)	01 Jan 2008
		BS EN 13280:2001	Specification for glass fibre reinforced cistern of one-piece and sectional construction for storage above ground of cold water <i>**This standard is recognized for SPAN product listing until 31st December 2017 only.</i>	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
7	Pressed Steel Sectional Rectangular Tank Panel	BS 1564:1975	Specification for Pressed Steel Sectional Rectangular Tanks	01 Jan 2008
8	Stainless Steel Storage Tank	JKR 20200-0041-99	Stainless Steel water tanks (with effective capacity up to 15,000L)	01 Jan 2008
9	Stainless Steel Storage Tank (Rectangular / Panel Tank)	CNS 9443:2000	Stainless Steel Storage Tanks	01 Jan 2008
(E) Valves				
1	Butterfly Valve	BS EN 593:2009+A1:2011	Industrial Valves. Metallic Butterfly Valves	01 Jan 2008
2	Air Valve	BS EN 1074-4:2000	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Air Valves	01 Jan 2008
		JKR 20200-0097-01	Ductile Iron Air Valves (Revised Edition 2001)	01 Jan 2008
		JKR 20200-0043-99	Ductile Iron Air Valves (Revised Edition 1999)	01 Jan 2008
		AWWA C512-07	Air Release, Air/Vacuum, and combination Air Valve for waterworks service	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
3	Gate Valve	MS 1049:1986	Specification for Double Flanged Cast Iron Wedge Gate (Sluice) valves for waterworks purposes <i>**This standard is already withdrawn by Department of Standard Malaysia and no longer recognized by SPAN</i>	01 Jan 2008
		BS EN 12288:2010	Industrial Valves. Copper Alloy Gate Valves	01 Jan 2011
		BS EN 1171:2002	Industrial Valves. Cast Iron Gate Valves	01 Jan 2008
		BS EN 1074-2:2000	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Isolating valves	01 Jan 2008
		BS 5163-1:2004	Valves for waterworks purposes. Predominantly key-operated cast iron gate valves. Code of practice	01 Jan 2008
		BS 5163-2:2004	Valves for waterworks purposes. Stem Caps for use on isolating valves and associated water control apparatus. Specification	01 Jan 2008
		JKR 20200-0077-00	Ductile Iron Type B Large Sluice Valves (DN700 - DN1800)	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
4	Check Valve	BS EN 12334:2001	Industrial Valves. Cast Iron Check Valves	01 Jan 2008
		BS EN 14341:2006	Industrial Valves. Steel Check Valves	01 Jan 2008
		BS EN 1074-3: 2000	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Check valves	01 Jan 2008
		AWWA C508-09	Swing-Check Valves for waterworks service, 2-In. (50 mm) through 24-In. (600 mm) NPS	01 Jan 2008
5	Control Valve	BS EN 1074-5: 2001	Valves for Water Supply – Fitness Purpose Requirements and Appropriate Verification Tests. Part 5: Control Valve	01 Jan 2008
		AWWA C530-07	Pilot-operated control valve	01 Jan 2012
6	Stop Valve	MS 1022:2005	Stopvalves – Specification (First Revision) <i>**This standard is already withdrawn by Department of Standard Malaysia and no longer recognized by SPAN</i>	01 Jan 2008
		BS EN 1213:2000	Building Valves. Copper alloy stopvalves for potable water supply in buildings. Test & Requirements	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Stop Valve <i>(continued)</i>	BS 6675:1986	Specification for servicing valves (copper alloy) for water services	01 Jan 2008
		JKR 20200-0172-04	JKR Standard Specification for Stop Valves (Revised Edition 2004)	10 Sept 2014
7	Ball Valves (Float Operated Valve)	BS 1212: Part 1: 1990	Float Operated Valves. Specification for piston type float operated valves (Copper Alloy Body)	01 Jan 2008
		BS 1212: Part 2: 1990	Float Operated Valves. Specification for diaphragm type float operated valves (Copper Alloy) (Excluding Float)	01 Jan 2008
8	Landing Valve	MS 1210: Part 1: 1991 (Confirmed:2011)	Specification for Fire Hydrant systems equipment – Part 1: Landing Valves for wet risers	01 Jan 2008
		MS 1210: Part 2: 1991 (Confirmed:2011)	Specification for Fire Hydrant systems equipment – Part 2: Landing Valves for dry risers	01 Jan 2012
		BS 5041: Pt 1:1987	Fire Hydrant systems equipment. Specification for landing valves for wet risers	01 Jan 2008
		BS 5041: Pt 3:1975	Fire Hydrant system equipment. Specification for inlet breeching for dry riser inlets	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
9	Mixing Valve (Manually Operated)	BS EN 1286:1999	Sanitary Tapware. Low Pressure Mechanical Mixing Valves. General technical specification	01 Jan 2008
10	Float Operated Valve	MS 1882:2005 (Confirmed 2013)	Piston Type Float Operated Valves – Specification	01 Jan 2008
		JKR 20200-0178-04	JKR Standard Specification for Piston Type Float Operated Valves (Revised Edition 2004)	10 Sept 2014
11	Pressure Reducing Valves	BS EN 1567:2000	Building Valves. Water pressure valves and combination water reducing valves. Requirements and test.	01 Jan 2008
12	Plug Valve	BS 5158:1989	Specification for cast iron plug valves	01 Mar 2016
		AWWA C517-09	Resilient-Seated Cast-Iron Eccentric Plug Valves	01 Jan 2013
13	Penstock	BS 7775:2005	Penstocks for use in water and other liquid flow applications. Specification	01 Jan 2008
		JKR 20200-0108-01	JKR Standard Specification for Penstocks. (Revised Edition 2001)	01 Jan 2008
14	Globe Valve	BS EN 13789:2002	Industrial Valves: Cast Iron Globe Valve	10 Sept 2014
15	Knife Gate Valve	MSS SP-81-2000	Stainless Steel, Bonnetless, Flanged Knife Gate Valve	10 Sept 2014

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(F) Back flow preventer				
1	Dual Check Backflow Preventer	BS EN 14454:2005	Devices to prevent pollution by backflow of potable water. Hose Union backflow preventer DN15 to DN32 inclusive. Family H, Type A	01 Jan 2008
		AS/NZS 3500.1: 2003/Amdt 2:2010	Plumbing and drainage - Water Services	01 Jan 2008
2	Reduced Pressure Zone Assembly	BS EN 12729:2002	Devices to prevent pollution by backflow of potable water. Controllable backflow preventer with reduced pressure zone. Family B, Type A	01 Jan 2008
		AS/NZS 3500.1: 2003/Amdt 2:2010	Plumbing and drainage - Water Services	01 Jan 2008
3	Cast Iron Check Valves	BS EN 12334:2001	Industrial Valves. Cast Iron Check Valves.	01 Jan 2008
4	Steel Check Valves	BS EN 14341:2006	Industrial Valves. Steel Check Valves	01 Jan 2008
5	Copper Alloy Globe, Globe Stop, Check and Gate Valves	BS EN 12288:2010	Industrial Valve. Copper Alloy Gate Valve	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(G) Meter				
<i>(a) Custody Transfer Meter</i>				
1	Mechanical Water Meter	MS ISO 4064-1: 2006	Measurement of Water Flow in fully charged closed conduits – Meters for Cold Potable Water and Hot Water – Part 1: Specification (First revision) (ISO 4064-1:2005, IDT)	01 Jan 2012
		ISO 4064-1:2005	Measurement of Water Flow in fully charged closed conduits – Meters for Cold Potable Water and Hot Water – Part 1: Specifications <i>**This standard is recognized for SPAN product listing until 31st December 2017 only.</i>	01 Jan 2012
<i>Note: Listing for custody mechanical water meter shall accompany with Certificate of Approval Weight /Measure/Instrument for Weighing/Instrument for Measuring (issued by National Metrology Institute of Malaysia (NMIM)).</i>				
<i>(b) Non-Custody Transfer Meter</i>				
1	Mechanical Water Meter	MS ISO 4064-1: 2006	Measurement of Water Flow in fully charged closed conduits – Meters for Cold Potable Water and Hot Water – Part 1: Specification (First revision) (ISO 4064-1:2005, IDT)	01 Jan 2012
		ISO 4064-1:2005	Measurement of Water Flow in fully charged closed conduits – Meters for Cold Potable Water and Hot Water – Part 1: Specifications <i>**This standard is recognized for SPAN product listing until 31st December 2017 only.</i>	01 Jan 2012
<i>Meter without Certificate of Approval Weight / Measure / Instrument for Weighing / Instrument for Measuring will be listed as for <u>non-custody transfer meter</u> which mean that the meter cannot be “use for trade</i>				

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(H) Sanitary Fittings - Taps & Mixer				
1	Bib Tap Pillar Tap Faucet	BS EN 200:2008	Sanitary Tapware. Single taps and combination taps for water supply systems of Type 1 and Type 2. General technical specification	01 Jan 2009
		AS/NZS 3718:2005	Water Supply – Tap ware	01 Jan 2008
		MS 1461:1999	Specification for draw off taps with metal bodies for water service <i>**This standard is already withdrawn by Department of Standard Malaysia and no longer recognized by SPAN.</i>	01 Jan 2008
2	Mixer	BS EN 817:2008	Sanitary tapware. Mechanical mixing valves (PN 10). General technical specification	01 Jan 2009
		BS EN 1286:1999	Sanitary Tapware. Low Pressure Mechanical Mixing Valves. General technical specification	01 Jan 2008
(I) Sanitary Wares - Water Closet				
1	Water Closet	MS 1522:2011	Vitreous China Water Closet Pans – Specification (Third Revision)	01 Jan 2012
(J) Water Closet Flushing Cistern & Flush Pipes				
1	Water Closet Flushing Cistern & Flush Pipes	MS 795-1:2011	WC Flushing Cisterns – Part 1: Specification (Second Revision)	01 Jan 2012

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(K) Flush Valve				
1	Flush Valve	BS EN 12541:2002	Sanitary Tapware – Pressure Flushing Valves & Automatic Closing Urinal Valves PN 10	01 Jan 2008
		MS 2545:2014	Flush Valve: Specification	10 Sept 2014
(L) Sanitary Appliances				
1	Urinal bowls Pedastal Bidets WC Pan	MS 147:2001	Specification for quality of Vitreous China Sanitary Appliances (First Revision)	01 Jan 2008
(M) Sanitary Wares – Urinals				
1	Urinals	MS 1799:2008	Urinals – Specification	01 Jan 2008
(N) Chemical for Water Treatment				
1	Activated Carbon (Granular)	MS 1815:2005	Granular Activated Carbon for use in potable water supply – Specification	01 Dec 2015
2	Activated Carbon (Powdered)	MS 873:2005	Powdered Activated Carbon for use in potable water supply – Specification (First Revision)	01 Dec 2015
3	Aluminium Sulphate	MS 699:2008	Aluminium Sulphate for Use in Potable Water Supply – Specification (Second Revision)	01 Jan 2009

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
4	Calcium Hydroxide/ Hydrated Lime	MS 1836:2005	Hydrated Lime and Slurry Lime for use in potable water supply – Specification	01 Jan 2008
5	Calcium Hypochlorite	MS 1584:2003	Specification for Calcium Hypochlorite use for potable water supply 2003	01 Jan 2012
6	Chlorine	MS 171:2013	Liquid Chlorine used for potable water supply – Specification (Second Revision) *refer Appendix C1 for SPAN Additional Requirement	01 Mar 2016
7	Copper Sulphate	MS 1571:2003	Specification for Copper Sulphate used for potable water	01 Jan 2012
8	Ferric Chloride	MS 1450:1999	Specification for liquid Ferric Chloride for potable water treatment	01 Jan 2008
9	Ferric Sulphate	MS 1452:1999	Specification for liquid Ferric Sulphate for potable water treatment	01 Jan 2008
10	Polyaluminium Chloride and ACH	MS 1454:2007	Liquid Polyaluminium Chloride for use in potable water supply – Specification (first revision), 2007	01 Jan 2008
11	Polymer based on Polyacrylamide	MS 1928:2007	Polyacrylamides for use in potable water supply - Specification	01 Jan 2008

PRODUCT CATEGORY A (WATER SUPPLY)				
No.	Product Type	Standard Number	Standard Title	Effective Date
12	Polymer based on Polyamine	MS 1929:2007	Polyamines for use in potable water supply - Specification	01 Jan 2008
13	Polymer based on PolyDADMAC	MS 1930:2007	Poly(Polydiallyldimethyl Ammonium Chloride) or PolyDADMAC for use in potable water supply - Specification	01 Jan 2008
14	Potassium Permanganate	MS 1576:2003	Specification for Potassium Permanganate used for potable water supply	01 Jan 2012
15	Soda Ash (Sodium Carbonate)	MS 1551:2002	Specification for Soda Ash (Sodium Carbonate) used for potable water supply	01 Jan 2008
16	Sodium Aluminate	MS 1572:2003	Specification for Sodium Aluminate used for potable water supply	01 Jan 2008
17	Sodium Flouride	MS 1573:2003	Specification for Sodium Flouride used for potable water supply	01 Jan 2008
18	Sodium Hydroxide / Caustic Soda	MS 700:1981	(Specification) for Sodium Hydroxide (technical grades)	01 Jan 2008
19	Sodium Hypochlorite	MS 1718:2003	Sodium Hypochlorite for use in potable water supply - Specification	01 Jan 2012
20	Sodium Silicoflouride	MS 1724:2004	Sodium Silicoflouride for use in potable water supply - Specification	01 Jan 2008

APPENDIX A2

**SEWERAGE
SYSTEM
(CATEGORY A)**

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(A) Flow Control				
1	Air Valve	BS EN 1074-4: 2000	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Air Valves <i>**This standard is recognized for SPAN product listing until 31st December 2018 only</i>	01 Nov 2014
		AWWA C512-15	Air Release, Air/Vacuum, and Combination Air Valve for Water and Wastewater Service	01 Mar 2016
		AWWA C512-07	Air Release, Air/Vacuum and Combination Air Valve for Waterworks Service <i>**This standard is recognized for SPAN product listing until 30th June 2019 only</i>	01 Sept 2015
		JKR 20200-0097-01	Ductile Iron Air Valves (Revised Edition 2001)	01 Nov 2014
		JKR 20200-0043-99	Ductile Iron Air Valves (Revised Edition 1999)	01 Nov 2014
2	Butterfly Valve	BS EN 593:2009+ A1:2011	Industrial valves. Metallic butterfly valves	01 Mar 2016
3	Check Valve	BS EN 1074-3: 2000	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Check valves <i>**This standard is recognized for SPAN product listing until 31st December 2018 only</i>	01 Jan 2008

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Check Valve <i>(continued)</i>	BS EN 12334:2001	Industrial valves. Cast Iron Check Valves	01 Jan 2008
		AWWA C508-09	Swing Check Valve for waterworks service	01 Mar 2016
4	Gate Valve	EN 1074-2:2000	Valves for water supply. Fitness for purpose requirements and appropriate verification tests - Part 2: Isolating valves <i>**This standard is recognized for SPAN product listing until 31st December 2018 only</i>	01 Jan 2008
		BS EN 1171:2002	Industrial valves. Cast iron gate valves	01 Jan 2008
		BS 5163-1:2004	Valves for waterworks purposes. Predominantly key- operated cast iron gate valves. Code of practice	01 Jan 2008
		BS 5163-2:2004	Valves for waterworks purposes. Stem Caps for use on isolating valves and associated water control apparatus. Specification	01 Mar 2016
5	Knife Gate Valve	MSS SP-81-2013	Stainless-Steel or Stainless- Steel-Lined, Bonnetless, Knife Gate Valve with Flanged Ends	01 Mar 2016
6	Plug Valve	AWWA C517-09	Resilient Seated Cast Iron Eccentric Plug Valves	01 Jan 2013

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
7	Penstock <ul style="list-style-type: none"> • Channel • Weir Gate • Wall Mounted 	BS 7775:2005	Penstocks for use in water and other liquid flow applications. Specification	01 Jan 2008
		JKR 20200-0061-2000	JKR Standard Specification for Penstocks	01 Jan 2008
(B) Sewage Conveyance				
1	Manhole	MS 881: Part 1: 1991	Specification for precast concrete pipes and fittings for drainage and sewerage Part 1: Specification for pipe and fittings with flexible joints and manholes	01 Jan 2008
2	Manhole Cover	BS EN 124-1:2015 & BS EN 124-2:2015	Gully tops and manholes tops for vehicular and pedestrian areas. <u>Part 1:</u> Definitions, classification, general principles of design, performance requirements and test methods <u>Part 2:</u> Gully tops and manhole tops made of cast iron	14 June 2017
		BS EN 124:1994 AMD 8587/1995	Gully tops & manhole tops for vehicular & pedestrian areas design req., type testing, marking, quality control <i>**This standard is recognized for SPAN product listing until 30th June 2019 only</i>	01 Jan 2008

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
3	Acrylonitrile Butadiene Styrene (ABS) Pipes & Fittings	MS 1419: Part 1: 2007 & MS 1419: Part 3: 1997	Acrylonitrile Butadiene Styrene (ABS) pipes and fittings for pressure application <u>Part 1:</u> Specification for Compounds, Pipes and Fittings (First Revision) <u>Part 3:</u> Solvent cement and priming (cleaning) fluids for use with ABS pipes and fittings	14 June 2017
		AS/NZS 3518:2004	Acrylonitrile butadiene styrene (ABS) compounds, pipes and fittings for pressure applications <i>**This standard is recognized for SPAN product listing until 31st December 2019 only</i>	01 Jan 2008
4	Cast Iron Pipes & Fittings	ISO 6594:2006	Cast Iron Pipes & Fittings - Spigot Series	01 Jan 2008
5	Ductile Iron (DI) Pipes & Fittings	BS EN 598:2007 +A1:2009	Ductile Iron pipes, fittings, accessories and their joints for sewerage applications. Requirements and test methods	01 Jan 2008

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
6	Glass Reinforced Thermosetting Plastic (GRP) Pipes	ISO 10467:2004/ Amd. 1:2012 (E)	Plastic piping systems for pressure and non-pressure drainage and sewerage - Glass Reinforced Thermosetting Plastic (GRP) systems based on Unsaturated Polyester (UP) resin (Amendment 1)	31 July 2015
		ISO 10467:2004	Plastic piping system for pressure and non-pressure drainage and sewerage - Glass Reinforced Thermosetting Plastic (GRP) systems based on Unsaturated Polyester (UP) resin <i>**This standard is recognized for SPAN product listing 30th June 2019 only</i>	01 Jan 2008
		BS EN 14364:2013	Plastics piping systems for drainage and sewerage with or without pressure. - Glass Reinforced Thermosetting Plastic (GRP) based on unsaturated polyester resin (UP). Specifications for pipes, fittings and joints	01 Jan 2014
		<u>Jacking pipe</u> ISO 25780:2011	<u>Jacking pipe</u> Plastic Piping systems for pressure and non-pressure water supply, irrigation, drainage or sewerage – Glass Reinforced Thermosetting Plastic (GRP) systems based on Unsaturated Polyester (UP) resin – Pipes with flexible joints intended to be installed using jacking techniques.	01 July 2013

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
7	Polyethylene (PE) Pipes & Fittings	BS EN12201-2: 2011+A1:2013	<u>Solid Wall</u> Plastics piping systems for water supply and for drainage and sewerage under pressure. Polyethylene (PE). Pipes.	01 Mar 2016
		BS EN12201-3: 2011+A1:2012	Plastics piping systems for water supply and for drainage and sewerage under pressure. Polyethylene (PE). Fittings.	01 Mar 2016
		DIN 16961-1 (2011-01) & DIN 16961-2 (2010-03)	<u>Profile Wall</u> (double wall corrugated) Thermoplastics pipes and fittings with profiled wall and smooth pipe inside. Part 1: Dimensions Part 2: Technical delivery Specifications	01 Oct 2016
		DIN 16961-1 (2000-03) & DIN 16961-2 (2000-03)	<u>Profile Wall</u> (double wall corrugated) Thermoplastics pipes and fittings with profiled wall and smooth pipe inside <i>**This standard is recognized for SPAN product listing until 30th June 2019 only</i>	01 Jan 2008
8	Polypropylene (PP) Pipes & Fittings	<u>Profile Wall</u> DIN 16961-1 (2000-03)	<u>Profile Wall</u> Thermoplastics pipes and fittings with profiled wall and smooth pipe inside - Part 1: Dimensions	01 Jan 2008

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
9	Poly(Vinyl Chloride) (PVC) Pipes & Fittings <ul style="list-style-type: none"> • PVC-C • PVC-M • PVC-U 	AS/NZS 4765:2007	Modified PVC (PVC-M) pipes for pressure applications	14 June 2017
		BS EN 1401-1: 2009	Plastic piping systems for non-pressure underground drainage and sewerage. Unplasticized Poly(Vinyl Chloride) (PVC-U) Specifications for pipes, fittings and the system <i>**This standard is recognized for SPAN product listing until 31st December 2019 only</i>	01 Jan 2008
		MS 979: Part 1: 1985	Specification for unplastificies sewerage pipe and fitting Part 1: Pipes of diameter 100mm and 155mm	01 Jan 2008
		MS 979: Part 2: 1985	Specification for unplastificies sewerage pipe and fitting Part 2: Pipes of diameter 200mm and above	01 Jan 2008
10	Reinforced Concrete (RC) Pipes & Fittings	MS 881: Part 1: 1991	Specification for precast concrete pipes and fittings for drainage and sewerage Part 1: Specification for pipe and fittings with flexible joints and manholes	01 Jan 2008
		MS 881: Part 2: 1991	Specification for precast concrete pipes and fittings for drainage and sewerage Part 2: Specification for inspection chambers and street gullies	01 Jan 2008

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
	Reinforced Concrete (RC) Pipes & Fittings <i>(continued)</i>	MS 881: Part 3: 1991	Specification for precast concrete pipes and fittings for drainage and sewerage Part 3: Specification for pipes and fittings with ogee joints	01 Jan 2008
		AS 4058:1992	Precast concrete pipes (pressure and non-pressure) <i>**This standard is recognized for SPAN product listing until 31st December 2019 only</i>	01 Jan 2008
		<u>Jacking pipe</u> MS EN 1916:2011	<u>Jacking pipe</u> Concrete pipes and fittings, unreinforced, steel fibre and reinforced (first revision)	01 Jan 2008
		BS 5911-1:2002 +A2:2010	Concrete pipes and ancillary concrete products. Specification for unreinforced and reinforced concrete pipes (including jacking pipes) and fittings with flexible joints <i>**This standard is recognized for SPAN product listing until 31 December 2019 only</i>	01 Mar 2016
11	Stainless Steel (SS) Pipes & Fittings	ASTM A312/A312M-2014B	Standard specification for seamless, welded, and heavily cold worked austenitic Stainless Steel pipes	01 Mar 2016
		ASTM A403-13	Standard specification for Wrought Austenitic Stainless Steel piping fittings	01 Jan 2012

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
12	Steel Pipes & Fittings	SPAN TS 21827: 2013	Specification for Steel Pipes, fittings and joint for water and sewerage Part 1: Technical delivery requirements	15 June 2013
13	Vitrified Clay (VC) Pipes & Fittings	MS 1061: Part 1: 1999	Vitrified clay pipes and fittings and pipes joints for drains and sewers. Part 1: Requirement (First Revision)	01 Jan 2008
		BS EN 295-1:2013	Vitrified clay pipes systems for drains and sewer. Requirements for pipes, fittings and joins. <i>**This standard is recognized for SPAN product listing until 31st December 2019 only</i>	01 Mar 2016
		BS EN 295-1:1991	Vitrified clay pipes systems for drains and sewer. Requirements <i>**This standard is recognized for SPAN product listing until 30th June 2019 only</i>	01 Jan 2008
		<u>Jacking pipe</u> BS EN 295-7:2013	<u>Jacking pipe</u> Vitrified clay pipes systems for drains and sewers. Requirements for pipes and joints for pipe jacking	01 Mar 2016
		BS EN 295-7:1996	Vitrified clay pipes systems for drains and sewers. Requirements for pipes and joints for pipe jacking <i>**This standard is recognized for SPAN product listing until 30th June 2019 only</i>	01 Jan 2008

PRODUCT CATEGORY A (SEWERAGE)				
No.	Product Type	Standard Number	Standard Title	Effective Date
(C) Treatment System				
1	Package Plant <ul style="list-style-type: none"> • Glass-fiber Reinforced Plastic (GRP) • High Density Polyethylene (HDPE) 	SPAN TS 1401: 2010 (A1:2013) Part 1	Sewage Treatment System Part 1: Prefabricated Tanks – Packaged Plants	01 Apr 2012
		SPAN TS 1402: 2010 (A1:2013) Part 2	Sewage Treatment System Part 2: Construction and Installation – Packaged Plants	01 Apr 2013
2	Small Sewage Treatment System (SSTS) <ul style="list-style-type: none"> • Glass-fiber Reinforced Plastic (GRP) • High Density Polyethylene (HDPE) 	MS 2441-2:2014	On Site Sewage Treatment Units – Part 2: Packaged Prefabricated Small Sewage Treatment System Specifications	01 June 2015
3	Septic Tank	MS 2441-1:2012	On-site sewage treatment units – Part 1: Prefabricated septic tanks specifications	14 June 2017

APPENDIX B1

**WATER SUPPLY
SYSTEM
(CATEGORY B)**

APPENDIX B

PRODUCT CATEGORY B AND TESTING/PERFORMANCE REQUIREMENTS FOR REGISTRATION

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
A) Chemical For Water Treatment			
1	Imported Chemicals for Water Treatment: <ul style="list-style-type: none"> • Chlorine Dioxide 	BS EN 12671-2009 Chemical used for treatment of water intended for human consumption – Chlorine Dioxide generated in situ	01 Jan 2010
2	Imported Chemicals for Water Treatment: <ul style="list-style-type: none"> • Soda Ash • Polymers • Potassium permanganate 	NSF/ANSI 60 Drinking water treatment chemical – Health Effects <i>(any revision year of standard also accepted)</i>	01 Mar 2016
3	Proprietary Calcium Hydroxide for Water Treatment: <ul style="list-style-type: none"> • Granular 	NSF/ANSI 60 Drinking water treatment chemical – Health Effects <i>(any revision year of standard also accepted)</i>	14 June 2017
4	Steam Activated Wood for Water Treatment: <ul style="list-style-type: none"> • Granular • Powdered 	NSF/ANSI 60 Drinking water treatment chemical – Health Effects <i>(any revision year of standard also accepted)</i>	14 June 2017
<p>Note:</p> <ul style="list-style-type: none"> • Requirements for registration of chemical shall be include Halal Certificate issued by: <ol style="list-style-type: none"> (i) Department of Islamic Development Malaysia (JAKIM) (ii) local Islamic bodies recognized by JAKIM (iii) foreigner bodies recognized by JAKIM <p>*refer Appendix C1 for SPAN Additional Requirement</p>			

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
B) Conveyance of Water			
1	Chlorinated Poly(Vinyl Chloride) (PVC-C) Pipes	NSF SE 8225 PVC-C Pipes made to Copper Tube Size (CTS)	14 June 2017
2	Modified Poly(Vinyl Chloride) (PVC-M) Pipes	AS/NZS 4765:2007 Modified PVC (PVC-M) pipes for pressure applications	14 June 2017
3	Coupling <ul style="list-style-type: none"> • Ductile Iron (DI) 	IACS Requirements concerning Pipes and Pressure Vessels P2 – Rules for piping design, construction and testing	14 June 2017
4	Ferrous Saddle <ul style="list-style-type: none"> • Ductile Iron (DI) material 	JKR 20200-0184-04 JKR Standard Specification for Ferrous Saddle	01 Nov 2014
5	Mechanical Joint Compression Fittings	ISO 17885:2015 Plastics piping systems – Mechanical fittings for pressure piping systems – Specifications	14 June 2017
		SIRIM 11:2017 Specification for Thermoplastic Mechanical Fittings for pressure piping systems	14 June 2017
6	Stainless Steel (SS) Press Fittings	SAS 322:2003 Pipe coupling performance standards for Stainless Steel pipes for general piping	17 Aug 2015
7	Strainer <ul style="list-style-type: none"> • Ductile Iron (DI) • DN600 & above 	Spesifikasi JKR 20200-0100-01 JKR Specification for Ductile Iron Y and T Strainers	14 June 2017

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
C) Flow Control			
1	Centrifugal Pump <ul style="list-style-type: none"> • End Suction • Multistage • Self-Priming • Split Casing • Submersible 	ISO 9906:2012 Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B, 1E, 1U and 2B <i>(any total adoption standard with ISO 9906:2012 also accepted)</i>	01 Oct 2015
		ANSI/HI 14.6:2011 Rotodynamic pumps for hydraulic performance acceptance tests - Grades 1B, 1E, 1U and 2B	01 Mar 2016
Note: <ul style="list-style-type: none"> • Pump Performance Test Report done by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications. • The report of pump performance must show the detail as per below: <ol style="list-style-type: none"> (i) Official letter head or official stamping (ii) Information of the pump & motor (iii) Date of testing (iv) Table & graph of result (head vs flow, efficiency vs flow, power vs flow) (v) Duty point of the pump (vi) Standard & grade used for the testing <p>*refer Appendix C1 for SPAN Additional Requirement</p>			
2	Constant Flow Controllers	ATS 5200.037.1-2006 Technical specification for plumbing and drainage products flow controllers. - For controlling flows in cold or heated water systems	14 June 2017
3	Knife Gate Valve <ul style="list-style-type: none"> • Ductile Iron (DI) 	MSS SP-81-2013 Stainless-Steel or Stainless-Steel-Lined, bonnetless, knife gate valve with flanged ends	01 Mar 2016

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
	Knife Gate Valve Ductile Iron (DI) <i>(continued)</i>	MSS SP-81-2000 Stainless-Steel, bonnetless, flanged knife gate valve <i>**This standard is recognized for SPAN product registration until 31st December 2018 only</i>	23 Oct 2014
4	Pilot Control Valve	AWWA C530-12 Pilot-operated control valves	01 Oct 2015
5	Thermoplastic Stopvalves	BS EN 1213:2000 (Excluding Clause 6.2) Thermoplastic Stopvalves for Potable Water Supply in Buildings	14 June 2017
		SIRIM 9:2017 Thermoplastic Stopvalves for Potable Water Supply in Buildings	14 June 2017
6	Valves for Waterworks <ul style="list-style-type: none"> • Air Valve • Butterfly Valve • Check Valve • Gate Valve 	Directive 2014/68/EU Pressure Equipment Directive	14 June 2017
7	Valves: <ul style="list-style-type: none"> • Beyond the range of diameter specified in the standard 	BS EN 12266-1:2012 Industrial valves – Testing of metallic valves. Pressure tests, test procedures and acceptance criteria. – Mandatory requirements	14 June 2017
		BS EN 12266-1:2003 Industrial valves – Testing of valves Part 1: Pressure tests, test procedures and acceptance criteria – Mandatory requirements <i>**This standard is recognized for SPAN product registration until 31st December 2018 only</i>	01 Nov 2014

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
<p>Note:</p> <ul style="list-style-type: none"> • Registration valve shall be together with: <ul style="list-style-type: none"> (i) BS EN 681-1:1996 Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications. Vulcanized rubber • Requirements for registration valve shall be include ONE of the following standards: <ul style="list-style-type: none"> (i) AS/NZS 4020:2005 Testing of products for use in contact with drinking water <i>**This standard is recognized for SPAN product registration until 31st December 2019 only</i> (ii) BS 6920-1:2000 or BS 6920-1:2014 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Specification <i>**This standard is recognized for SPAN product registration until 31st December 2019 only</i> (iii) SS 375-1:2001 or SS 375-1:2015 Specification for suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification <i>**This standard is recognized for SPAN product registration until 31st December 2019 only</i> (iv) MS 1583: Part 1:2003 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification (v) NSF/ANSI 61 (accept any revision year of standard) Drinking Water System Components - Health Effects 			
8	Water Hammer Arresters	Standard PDI-WH 201 (Revise 2010) - Water hammer arresters	14 June 2017

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
D) Instrumentation and Control			
1	Motorised Actuator <ul style="list-style-type: none"> • Electric operated <ul style="list-style-type: none"> ➢ Quarter-turn ➢ Multi-turn • Battery operated <ul style="list-style-type: none"> ➢ Quarter-turn ➢ Multi-turn 	BS EN 15714-2:2009 Industrial valves - Actuators Part 2: Electric actuators for industrial valves – Basic requirements & IEC 60529 / EN 60529 Degrees of protection provided by enclosures (IP Code)	01 Mar 2016
<p>Note:</p> <p>Actuator Performance Test Report (all type tests) and IP Code Test shall be done by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.</p> <p>Test report/certificate of IEC 60529 / EN 60529 shall show the following information:</p> <ul style="list-style-type: none"> • Testing Body Letter Head / Certificate • Manufacturer Name • Model of Product • Scope of testing (examples: IP65 / IP67 / IP68 / IP69K) • Type of testing • Date of testing 			
E) Lining / Coating / Waterproofing / Sealant / Adhesive / Solvent Cement			
1	Lining Coating Waterproofing Sealant Adhesive Solvent Cement	AS/NZS 4020:2005 Testing of products for use in contact with drinking water. <i>**This standard is recognized for SPAN product registration until 31st December 2019 only</i>	01 Jan 2008
		BS 6920-1:2014 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Specification. <i>**This standard is recognized for SPAN product registration until 31st December 2019 only</i>	01 Mar 2016

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
	Lining Coating Waterproofing Sealant Adhesive Solvent Cement (continued)	<p>BS 6920–1:2000 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Specification.</p> <p><i>**This standard is recognized for SPAN product registration until 31st December 2018 only</i></p>	01 Jan 2008
		<p>SS 375-1:2015 Specification for suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification</p> <p><i>**This standard is recognized for SPAN product registration until 31st December 2019 only</i></p>	01 Mar 2016
		<p>SS 375-1:2001 Specification for suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification</p> <p><i>**This standard is recognized for SPAN product registration until 31st December 2018 only</i></p>	10 Sept 2014
		<p>MS 1583: Part 1:2003 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification</p>	01 Jan 2008
		<p>NSF/ANSI 61 Drinking Water System Components - Health Effects (accept any revision year of standard)</p>	01 Mar 2016

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
<p>Note:</p> <p>For the test report that using standards BS 6920-1, SS 375-1 or MS 1583-Part 1 the report must complete with the tests as below:</p> <ul style="list-style-type: none"> (i) Odour and flavour water (ii) Apperance of water (iii) Growth of aquatic microorganism's test (iv) The extraction of substances that may be concern to public health (v) The extraction of metals 			
F) Measuring Device			
1	Electromagnetic Flowmeter (Custody Transfer Meter)	<u>New registration application</u> Directive 2014/32/EU Measurement Instrument (MI-001)	14 June 2017
		<u>Existing registration</u> Directive 2004/22/EC Measurement Instrument (MI-001) <i>**This standard is recognized for SPAN product registration until 30th June 2019 only</i>	01 Mar 2016
		<u>New registration application</u> OIML R49-1:2013 Water meters intended for the metering of cold potable water and hot water Part 1: Metrological and technical requirement	14 June 2017
		<u>Existing registration</u> OIML R49-1:2006 Water meters intended for the metering of cold potable water and hot water Part 1: Metrological and technical requirement <i>**This standard is recognized for SPAN product registration until 30th June 2019 only</i>	01 Mar 2016

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
Note: Registration for custody electromagnetic flowmeter shall accompany with Certificate of Approval Weight/Measure/Instrument for Weighing/Instrument for Measuring (issued by National Metrology Institute of Malaysia (NMIM)).			
2	Electromagnetic Flowmeter (Non-Custody Transfer Meter)	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications. <i>(one certificate/report for every single size of flowmeter)</i>	01 Mar 2016
3	Ultrasonic Flowmeter <ul style="list-style-type: none"> • Clamp-On • Insertion • Open Channel 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
G) New Innovative Product			
1	New Innovative System / Product for Treatment of Water, Storage of Water or Conveyance of Water	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	01 Jan 2010
H) Storage of Water			
1	Cylindrical Double Fold System Tank	BS 5950-1:2000 Structural use of steelwork in building Part 1: Code of practice for design – Rolled and welded section	01 Jan 2008
2	Corrugated Steel Panel with Polyethylene-Lined Water Storage Tank	BS 1449-1.1:1991 Steel plate, sheet & strip. carbon and carbon-manganese sheet and strip	01 Mar 2016

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
	Corrugated Steel Panel with Polyethylene-Lined Water Storage Tank <i>(continued)</i>	SS 245:2014 (Cl. 10.2.1 & Cl. 10.2.2) Specification for glass reinforced polyester sectional water tanks	01 Mar 2016
		SS 245:1995 (Cl. 10.2.1 & Cl. 10.2.2) Specification for Glass Reinforced Polyester Sectional Water Tanks <i>**This standard is recognized for SPAN product registration until 31st December 2018 only</i>	01 Jan 2008
I) Water Quality Monitoring Equipment			
1	Laboratory Equipment Test Portable/Fix Type (Single Parameter)	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
2	Laboratory Equipment Test Portable/Fix Type (Multiple Parameter)	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
3	On-Line Analyser Monitoring System (Single Parameter)	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
4	On-Line Analyser Monitoring System (Multiple Parameter)	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
J) Water Treatment Equipment			
1	Disinfection System <ul style="list-style-type: none"> Chlorine Dosing System (Vacuum regulator, Remote meter/ Chlorinator, Ejector) 	Manufacturer Standard Performance Test Report	14 June 2017
2	Disinfection System <ul style="list-style-type: none"> Ozone 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	14 June 2017
3	Disinfection System <ul style="list-style-type: none"> Ultraviolet (UV) 	ONORM M5873-1:2001 Plants for the disinfection of water using ultraviolet radiation. - Requirements and testing. Low pressure mercury lamp plants.	14 June 2017
		DVGW W294:2006 UV Disinfection Equipment for Water Supply Systems	14 June 2017
		NWRI UV Disinfection Guidelines - Guidelines for drinking water and water reuse.	14 June 2017
4	Electro Chlorination <ul style="list-style-type: none"> Brine Solution Sea Water 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	14 June 2017
5	Membrane Filtration <ul style="list-style-type: none"> Ceramic Micro-filtration Nano-filtration Ultra-filtration Reverse Osmosis 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	14 June 2017

PRODUCT CATEGORY B (WATER SUPPLY)			
No.	Product Type	Requirements	Effective Date
6	Metering Pumps <ul style="list-style-type: none"> • Diaphragm pumps • Piston pumps • Peristaltic pumps • Screw pumps 	ANSI/ HI 7.6-2012 Controlled Volume Metering Pumps for Test	14 June 2017
		GB/T 7782-2008 Metering Pumps	14 June 2017
K) Water Treatment System			
1	Compact Plant <ul style="list-style-type: none"> • Conventional • Dissolved Air Flotation (DAF) 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	14 June 2017
2	Package Plant <ul style="list-style-type: none"> • Dissolved Air Flotation (DAF) • KS Filter • Lamella Settler • Revo Filter 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	14 June 2017
3	Package Plant with Membrane Filtration System	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	14 June 2017
4	Package Plant with Bio-Green Filtration System	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	14 June 2017

APPENDIX B2

**SEWERAGE
SYSTEM
(CATEGORY B)**

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
A) Aeration			
1 a)	Diffused Aerator <ul style="list-style-type: none"> Aspirating Aerator Ejector Submersible Aerator 	BS EN 12255-15 Wastewater treatment plants. Measurement of the oxygen transfer in clean water in aeration tanks of activated sludge plants.	01 Jan 2008
1 b)	Mechanical Aerator <ul style="list-style-type: none"> Brush Aerator Hydrojet Aerator Surface Aerator Paddle Wheel Aerator 	ASCE/EWRI 2-06 Measurement of oxygen transfer in clean water <i>(Note: Standards for material is subject to manufacturer recommendations)</i>	01 Jan 2008
2	Diffuser <ul style="list-style-type: none"> Disc Tube/Pipe Panel 	CJ/T 264-2007 Membrane fine bubble diffuser for water & wastewater treatment	14 June 2017
		HJ/T 252-2006 Specification for environmental protection product middle and fine bubble diffuser	14 June 2017
B) Air Supply			
1	Air Blower & Air Compressor	<u>For blowing application</u> JIS B 8341:2008 Displacement Compressors – Acceptance tests	01 Dec 2015
		BS ISO 1217:2009 Displacement Compressors. – Acceptance tests	01 Dec 2015
		KS B 6350:2014 Testing Method for Turbo Compressor.	01 Dec 2015
		JB/T 8941.2-1999 (Roots Type Blowers for General Purpose) Part 2: Performance test methods.	31 Dec 2013

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
	Air Blower & Air Compressor <i>(continued)</i>	ASME PTC 10-1997 Performance Test Code on Compressors and Exhausters	14 June 2017
C) Air Vacuum			
1	Vacuum pump	BS ISO 21360:2007 Vacuum technology. Standard methods for measuring vacuum-pump performance. General description	01 Dec 2015
D) Clarifier / Sedimentation			
1	Scum Skimmer <ul style="list-style-type: none"> • Weir Skimmer • Trough/Pipe • Chain & Flight • Multiple travelling collector 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
2	Sludge Scrapper <ul style="list-style-type: none"> • Rectangular <ul style="list-style-type: none"> - Chain & Flight - Multiple travelling collector 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
3	Sludge Scrapper & Scum Skimmer <ul style="list-style-type: none"> • Circular • Rectangular <ul style="list-style-type: none"> - Chain & Flight - Bridge travelling 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
E) Disinfection			
1	Chlorination	Manufacturer Standard Performance Test Report	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
2	Ultraviolet (UV)	ONORM M5873-1:2001 Plants for the disinfection of water using ultraviolet radiation. - Requirements and testing. Low pressure mercury lamp plants.	14 June 2017
		DVGW W294:2006 UV Disinfection equipment for water supply systems	14 June 2017
		NWRI UV Disinfection Guidelines - Guidelines for drinking water and water reuse.	14 June 2017
F) Effluent and Water Removal / Recycle			
1	Effluent Transfer & Dewatering (Centrifugal Pump) <ul style="list-style-type: none"> • End Suction • Multistage • Self-Priming • Submersible 	ISO 9906:2012 Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B <i>(any total adoption standard with ISO 9906:2012 also accepted)</i>	01 Mar 2016
		ANSI/HI 14.6:2011 Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B	01 Mar 2016
<p>Note:</p> <ul style="list-style-type: none"> • Pump Performance Test Report done by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications. • The report of pump performance must show the detail as per below: <ul style="list-style-type: none"> (i) Official letter head or official stamping (ii) Information of the pump (iii) Date of testing (iv) Table & graph of result (head vs flow, efficiency vs flow, power vs flow) (v) Duty point of the pump (vi) Standard & grade used for the testing 			

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
G) Effluent Decanting			
1	Effluent Decanter <ul style="list-style-type: none"> • Fixed Pipe • Floating • Surface Skimming 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
H) Flow Control			
1	Air Relief Valve	Manufacturer Standard Performance Test Report	01 Mar 2016
2	Automatic Control Valve	Manufacturer Standard Performance Test Report	01 Mar 2016
3	Eccentric Semi Ball-Plug Valve	Manufacturer Standard Performance Test Report	01 Mar 2016
4	Flap Valve	Manufacturer Standard Performance Test Report	01 Mar 2016
5	Interface Valve	Manufacturer Standard Performance Test Report	01 Mar 2016
6	Recoil Check Valve	BS EN 12334:2001 Industrial valves. Cast iron check valves	01 Mar 2016
		BS EN 14341:2006 Industrial valves. Steel check valves	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
I) Grit and Grease Removal			
1	Grease Collector <ul style="list-style-type: none"> • Chain & Flight • Trough-Pipe Skimmer • Weir Skimmer 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
2	Grit & Grease Collector (Horizontal Flow) <ul style="list-style-type: none"> • Chain & Flight • Detritor • Travelling Bridge 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
3	Grit Collector <ul style="list-style-type: none"> • Aerated • Horizontal Flow <ul style="list-style-type: none"> - Chain & Flight • Vortex <ul style="list-style-type: none"> - Cyclone Degritter - Mechanical - Natural / Hydraulic 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
4 a)	Grit Transfer Pump (Positive Displacement) <ul style="list-style-type: none"> • Reciprocating <ul style="list-style-type: none"> - Diaphragm - Plunger • Rotary <ul style="list-style-type: none"> - Archimedes - Lobes - Screw - Progressive Cavity 	BS EN 14343:2005 Rotary positive displacement pumps. Performance tests for acceptance.	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
4 b)	Grit Transfer Pump (Centrifugal Pump) <ul style="list-style-type: none"> • End Suction • Self Priming • Submersible <i>(continued)</i>	ISO 9906:2012 Rotodynamic pumps <ul style="list-style-type: none"> - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B <i>(any total adoption standard with ISO 9906:2012 also accepted)</i>	01 Mar 2016
		ANSI/HI 14.6:2011 Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B	01 Mar 2016
Note: <ul style="list-style-type: none"> • Pump Performance Test Report done by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications • The report of pump performance must show the detail as per below: <ul style="list-style-type: none"> (i) Official letter head or official stamping (ii) Information of the pump (iii) Date of testing (iv) Table & graph of result (head vs flow, efficiency vs flow, power vs flow) (v) Duty point of the pump (vi) Standard & grade used for the testing 			
5	Grit Transfer <ul style="list-style-type: none"> • Chain and Bucket • Compactor <ul style="list-style-type: none"> - Screw • Compactor and Conveyor <ul style="list-style-type: none"> - Screw • Conveyor <ul style="list-style-type: none"> - Screw 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
6	Grit Washing & Dewatering <ul style="list-style-type: none"> • Drum Screen • Rotary Screen • Screw Screen • Static Screen 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
J) Instrumentation and Control			
1	Actuator <ul style="list-style-type: none"> • Electric 	BS EN 15714-2:2009 Industrial valves - Actuators Part 2: Electric actuators for industrial valves – Basic requirements and comply with SPAN TS 1701:2015 Technical Specification for Instrumentation and Control – Part 1: Actuator	01 Oct 2016
2	Actuator <ul style="list-style-type: none"> • Pneumatic 	BS EN 15714-3:2009 Industrial valves - Actuators Part 3: Pneumatic part-turn actuators for industrial valves – Basic requirements	14 June 2017
3	Analyser <ul style="list-style-type: none"> • Ammonium & Nitrate • Chlorine <ul style="list-style-type: none"> - Amperometric - Colorimetric • Suspended Solids • Total Organic Carbon 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
4	Chemical Dosing <ul style="list-style-type: none"> • Monitoring System 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
5	Dissolved Oxygen <ul style="list-style-type: none"> • Amperometric • Galvanic • Luminescent • Ultrasonic 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
6	Gas Control <ul style="list-style-type: none"> • Gas Combustor • Gas Detector • Gas Holder 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
7	Level Meter <ul style="list-style-type: none"> • Capacitive • Electrode • Float Gauging • Float Switch • Hydrostatic • Ultrasonic 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
8	Non-Custody Flowmeter <ul style="list-style-type: none"> • Differential Pressure • Electromagnetic • Rotameter • Ultrasonic 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
9	<ul style="list-style-type: none"> • Oxidation Reduction Potential (ORP) Meter • pH Meter 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
10	Pressure Meter <ul style="list-style-type: none"> • Differential • Switch • Transmitter 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016
11	Sludge Density Meter	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications.	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
12	System Control <ul style="list-style-type: none"> • Air Control System • Monitoring System • SCADA 	Manufacturer Standard	01 Mar 2016
		IEEE C37.1-2007 SCADA and Automation Systems.	01 Mar 2016
13	Temperature Meter <ul style="list-style-type: none"> • RTD • Switch • Thermocouple • Transmitter 	Calibration Certificate or Calibration Report issued by manufacturer laboratory or third party laboratory which accredited by ISO 17025:2005 certifications.	01 Mar 2016
K) Mixing			
1	Agitator	Manufacturer Standard Performance Test Report	01 Mar 2016
2	Mixer <ul style="list-style-type: none"> • Flow Booster • Flowmaker • Surface Mixer 	Manufacturer Standard Performance Test Report	14 June 2017
3	Mixer <ul style="list-style-type: none"> • Submersible Mixer 	ISO 21630:2007 Pumps Testing. Submersible mixers for wastewater and similar applications.	01 Dec 2015
L) Odour Control and Treatment			
1	Odour Control <ul style="list-style-type: none"> • Biofiltration • Bioscrubbing • Carbon Adsorption • Deodorizer • Liquid Redox • Photoionisation • Solid Scavenger • Wet Air Scrubbing 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	14 June 2017

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
M) Pre-Treatment			
1	Grease Trap	BS EN 1825-1:2004 Grease separators. Principles of design, performance and testing, marking and quality control.	01 Mar 2016
		Manufacturer Standard Performance Test Report	14 June 2017
2	Communal Grease Trap	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	14 June 2017
3	Complete Pre-Treatment System	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	14 June 2017
N) Primary and Secondary Screening			
1	Screen <ul style="list-style-type: none"> • Manual <ul style="list-style-type: none"> - Bar Screen • Mechanical <ul style="list-style-type: none"> - Bar Screen - Belt Screen - Climber Screen - Drum Screen - Inclined Screen - Rotary Screen - Screw Screen - Step Screen 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
2	Screening Transfer <ul style="list-style-type: none"> • Compactor <ul style="list-style-type: none"> - Screw • Conveyor <ul style="list-style-type: none"> - Belt - Screw • Conveyor & Compactor <ul style="list-style-type: none"> - Screw 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
O) Raw Sewage Pumping			
1	Positive Displacement Pump <ul style="list-style-type: none"> • Rotary <ul style="list-style-type: none"> - Archimedes - Lobes - Screw 	BS EN 14343:2005 Rotary positive displacement pumps. Performance tests for acceptance	01 Oct 2016
2	Centrifugal Pump <ul style="list-style-type: none"> • End Suction • Self-Priming • Submersible 	ISO 9906:2012 Rotodynamic pumps <ul style="list-style-type: none"> - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B (any total adoption standard with ISO 9906:2012 also accepted)	01 Dec 2015
		ANSI/HI 14.6:2011 Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B	01 Mar 2016
Note: <ul style="list-style-type: none"> • Pump Performance Test Report done by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications 			

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
<p>Note:</p> <ul style="list-style-type: none"> • The report of pump performance must show the detail as per below: <ul style="list-style-type: none"> (i) Official letter head or official stamping (ii) Information of the pump (iii) Date of testing (iv) Table & graph of result (head vs flow, efficiency vs flow, power vs flow) (v) Duty point of the pump (vi) Standard & grade used for the testing <p>*refer Appendix C2 for SPAN Additional Requirement</p>			
P) Sewage Conveyance			
1	Sewer Liner <ul style="list-style-type: none"> • Cured-in-place pipes (CIPP) 	BS EN ISO 11296:2011 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks Part 1: General Part 2: Lining with continuous pipes Part 3: Lining with close-fit pipes Part 4: Lining with cured-in-place pipes	01 Dec 2015
		ASTM D5813-04 (2012) Standard specification for cured-in-place thermosetting resin sewer piping systems	01 Dec 2015
		ASTM F2019-11 Standard practice for rehabilitation of existing pipelines and conduits by the pulled in place installation of Glass Reinforced Plastic (GRP) Cured-in-Place Thermosetting Resin Pipe (CIPP)	01 Dec 2015
		ASTM F1216-16 Standard practice for rehabilitation of existing pipelines and conduits by the Inversion and Curing of a Resin-Impregnated Tube	14 June 2017

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
2	Sewer Liner <ul style="list-style-type: none"> • FRP Slip Lining • HDPE Lining 	BS EN ISO 178:2010+A1:2013 Plastics - Determination of flexural properties	01 Dec 2015
		BS EN ISO 11296:2011 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks Part 1: General Part 2: Lining with continuous pipes Part 3: Lining with close-fit pipes Part 4: Lining with cured-in-place pipes	01 Dec 2015
Q) Sludge Treatment			
1	Biogas System <ul style="list-style-type: none"> • Gas Holder 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
2	Gas Control <ul style="list-style-type: none"> • Gas Holder 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
3	Gas Holder <ul style="list-style-type: none"> • Dry Seal 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
4	Polymer Dosing <ul style="list-style-type: none"> • Metering Pump <ul style="list-style-type: none"> - Positive Displacement 	GB/T 7782-2008 Metering Pumps	01 Mar 2016
		ANSI/ HI 7.6-2012 Controlled volume Metering Pumps for test	14 June 2017
	Polymer Dosing <ul style="list-style-type: none"> • Polymer Preparation 	Manufacturer Standard Performance test report	14 June 2017

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
5	Sludge Dewatering	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
6	Sludge Digester	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
7	Sludge Dryer <ul style="list-style-type: none"> • Screw Press • Gravity Container • Fluidised Bed Sludge • Rotary Klin 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
8	Sludge Reception Facilities	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
9	Sludge Screen <ul style="list-style-type: none"> • Mechanical <ul style="list-style-type: none"> - Drum Screen - Micro Screen - Screw Screen 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
10	Sludge Thickener <ul style="list-style-type: none"> • Disc Thickener • Gravity Belt Thickener • Gravity Thickener <ul style="list-style-type: none"> - Central Driven - Peripheral Driven • Rotary Drum Thickener • Screw Thickener • Table Thickener 	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
11	Sludge Transfer (Positive Displacement Pump) <ul style="list-style-type: none"> Progressive Cavity Rotary 	BS EN 14343:2005 Rotary positive displacement pumps. Performance tests for acceptance	01 Oct 2016
	Sludge Transfer (Centrifugal Pump) <ul style="list-style-type: none"> End Suction Self Priming Submersible 	ISO 9906:2012 Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B <i>(any total adoption standard with ISO 9906:2012 also accepted)</i>	01 Mar 2016
		ANSI/HI 14.6:2011 Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B	01 Mar 2016
<p>Note:</p> <ul style="list-style-type: none"> Pump Performance Test Report done by manufacturer laboratory or third party laboratory which accredited by ISO/IEC 17025:2005 certifications. The report of pump performance must show the detail as per below: <ul style="list-style-type: none"> (i) Official letter head or official stamping (ii) Information of the pump (iii) Date of testing (iv) Table & graph of result (head vs flow, efficiency vs flow, power vs flow) (v) Duty point of the pump (vi) Standard & grade used for the testing <p>*refer Appendix C2 for SPAN Additional Requirement</p>			
R) Treatment System			
1	Package Sewage Treatment System <ul style="list-style-type: none"> Glass-fiber Reinforced Plastic (GRP) High Density Polyethylene (HDPE) Steel 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016

PRODUCT CATEGORY B (SEWERAGE)			
No.	Product Type	Requirements	Effective Date
2	Innovative System for Sewage Treatment	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	14 June 2017
3	Integrated Fixed Film Activated Sludge	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
4	Membrane Bioreactor (MBR)	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
5	Moving Bed Bioreactor (MBBR)	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
6	Rotating Biological Contactor (RBC) <ul style="list-style-type: none"> • Biodrum • Submerged Contact Biodisc Aerator 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
7	Super Dissolved Oxygen <ul style="list-style-type: none"> • Bi-Act SDO 	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016
8	Trickling Filter	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	01 Mar 2016

APPENDIX C1

SPAN Additional Requirement or Condition for Specific Products

(WATER SUPPLY SYSTEM PRODUCTS)

WATER SUPPLY SYSTEM PRODUCTS

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
A. WATER PIPES			
1	Polyethylene (PE) Pipes	MS 1058: Part 2: 2005	<ol style="list-style-type: none"> 1. Minimum rating for PE Pipes is PN 12.5. 2. Polyethylene Pipes (PE) product should have a blue marking stripe (blue stripes) on the pipe as an identification for water supply usage. The blue stripes must comply with the following condition: <ol style="list-style-type: none"> a. mixture of compound used to produce the blue stripes have to use the same PE polymers with the original PE polymers (PE 80/PE 80 or PE 100/PE 100) as used in the manufacture of the PE pipe. b. PE80 blue (light blue) compound should be used for PE80 pipe and PE100 (dark blue) stripe for PE100 pipe in order to identify the classification of PE material. c. Minimum number of stripes shall be 4 spaced at 90° interval. d. Thickness of stripes should be less than 10% of the wall thickness of the pipe.
		MS 1058: Part 2: 2005, Amd 1:2011	
		ISO 4427-2:2007	
		DIN 8075 (2011-12)	
2	Unplasticized Poly(Vinyl Chloride) (PVC-U) Pipes	MS 628: Part 1: 1999 Amd.1:2001 & Amd.2:2002	<ol style="list-style-type: none"> 1. PVC-U pipes should be used together with the PVC-U fittings and solvent cement of the same brand. 2. Minimum rating for PVC-U pipe is PN 12.
		MS 628-2:2014	
		MS 762:2007, AMD.1:2010	
		BS EN ISO 1452-2: 2009	

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
3	Acrylonitrile-Butadiene-Styrene (ABS) Pipes	MS 1419: Part 1: 2007	1. ABS Pipes should be used together with the ABS Fittings and Solvent Cement of the same brand. 2. Minimum rating for ABS Pipes is Class 12.
		AS/NZS 3518:2004	
		AS/NZS 3518:2013	
B. WATER FITTING			
1	Unplasticized Poly(Vinyl Chloride) (PVC-U) Fittings	MS 628: Part 2: Section 2.1:1999	1. PVC-U Fittings should be used together with the PVC-U Pipes and Solvent Cement of the same brand.
		MS 628-3:2014	
		BS EN ISO 1452-3: 2009	
		BS 4346-1:1969	
		BS 4346-2:1970	
2	Acrylonitrile-Butadiene-Styrene (ABS) Fittings	MS 1419: Part 1: 2007	1. ABS Fittings should be used together with the ABS Pipes and Solvent Cement of the same brand.
		AS/NZS 3518:2004	
		AS/NZS 3518:2013	
C. SOLVENT CEMENT			
1	ABS Solvent Cement	MS 1419: Part 3: 1997	1. ABS Solvent Cement should be used together with the ABS Pipes and ABS Fittings of the same brand.
2	PVC-U Solvent Cement	MS 628: Part 2: Section 2.2: 1999	1. PVC-U Solvent Cement should be used together with the PVC-U Pipes and PVC-U Fittings of the same brand.
		MS 628-4:2015	

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
D. WATER TANK			
1	Cylindrical Steel Tank – Double Fold System	BS 5950-1:2000	<ol style="list-style-type: none"> 1. Maximum capacity allowed is 1.0 million gallon (MG). 2. Maximum height allowed is 5 meter. 3. Tank must be supplied and installed by the same supplier or installer who is appointed by the supplier. 4. Minimum 10 years warranty period for tank is required.
2	Steel Tank with Lining or Coating (Glass Fused / Glass Coated / Epoxy Lining / PE Lining)	ANSI/AWWA D103-09	<ol style="list-style-type: none"> 1. Maximum capacity allowed for elevated tank is 500,000 G and for ground storage tank is 750,000 G. 2. Maximum height allowed is 5 meter or 4 panels or which one is lower. 3. Tank must be supplied and installed by the same supplier or installer who is appointed by the supplier. 4. Minimum 10 years warranty period for tank and sealant/ lining is required. 5. All stainless steel accessories (nozzles, flange, manways, ladders, brackets, etc) that come in to direct contact with epoxy panels need to have applied an elastic, 1-component sealant with a polyurethanebase (specially designed for sealing tanks built in section) <p>Coat the entire stainless steel mounting area where it will attach to the epoxycoated steel.</p>
		AWWA D103-97	
3	Polyethylene (PE) Storage Tanks	MS 1225: Pt 1: 2007 Amd 1:2011 MS 1225: Pt 2: 2006 Amd 1:2011 MS 1225-1:2014	<ol style="list-style-type: none"> 1. Tank should have an interlocking mechanism

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS			
4	Glass-fiber Reinforced Polyester (GRP) Sectional Water Tank	MS 1390:2010 Clause 12.1.3 – Accelerated Weathering Test	<ol style="list-style-type: none"> 1. Tank must be supplied and installed by the same supplier or installer who is appointed by the supplier. 2. Maximum capacity allowed is 500,000 liters (100,000 G). 3. Maximum height allowed is 4 meter. 4. Tank only can be used for system that will not be surrendered to the water operator. 5. Minimum 10 years warranty period for tank and sealant is required. 6. Users are encouraged to provide protection for the tank from direct sunlight. (i.e. roof etc.) 7. Suppliers must ensure levelling of plinth prior to tank installation. 			
5	Corrugated Steel Panels with Polyethylene-Lined Water Storage Tank	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="544 1182 855 1368">BS 1449: Pt 1:1991</td> </tr> <tr> <td data-bbox="544 1368 855 1727"> SS 245:1995 Clause 10.2.1 - Leakage Test Clause 10.2.2 - Deflection Test </td> </tr> <tr> <td data-bbox="544 1727 855 1995">SS 245:2014</td> </tr> </table>	BS 1449: Pt 1:1991	SS 245:1995 Clause 10.2.1 - Leakage Test Clause 10.2.2 - Deflection Test	SS 245:2014	<ol style="list-style-type: none"> 1. Tank only can be used for system that will not be surrendered to the water operator. 2. Maximum capacity allowed is 500,000 litres (100,000 G). 3. Maximum height allowed is 5 meter or 4 panels or which one is lower. 4. Minimum thickness of the PE Lining is 2.0mm. 5. Tank must be supplied and installed by the same supplier or installer who is appointed by the supplier. 6. Minimum 10 years warranty period for tanks and sealant/ lining is required.
BS 1449: Pt 1:1991						
SS 245:1995 Clause 10.2.1 - Leakage Test Clause 10.2.2 - Deflection Test						
SS 245:2014						

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
6	Glass–fibre Reinforced Polyester (GRP) One-Piece Water Tank	MS 1241:2011	<ol style="list-style-type: none"> 1. Tank must be supplied and installed by the same supplier or installer who is appointed by the supplier. 2. Maximum capacity allowed is 100,000 liters (22,000 G) 3. Tank only can be used for system that will not be surrendered to the water operator. 4. Tank is not allowed to be cast <i>in-situ</i>.
		BS EN 13280:2001	
7	Pressed Steel Tank	BS 1564:1975	<ol style="list-style-type: none"> 1. Tank only can be used for system that will not be surrendered to the water operator. 2. Maximum capacity allowed is 500,000 liters (100,000 G) 3. Maximum height allowed is 4 panels. 4. The tank must be lined with PE lining; minimum thickness of the PE lining is 2.0mm. 5. Minimum 10 years warranty period for tanks and linings. 6. Tank must be supplied and installed by the same supplier or installer who is appointed by the supplier.

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
E. VALVES			
1	Butterfly Valve	BS EN 593:2009 +A1:2011	<ol style="list-style-type: none"> 1. O-Ring/ Gasket shall be of EPDM. 2. Body material shall be of Ductile Iron. 3. For valve which is more than 600 mm in diameter, water operator is allowed to make any test which they feel necessary before purchasing is made.
2	Air Valve	BS EN 1074-4: 2000 ANSI/AWWA C512-04 JKR 20200-0097-01	<ol style="list-style-type: none"> 1. O-Ring/ Gasket shall be of EPDM 2. Body material shall be of Ductile Iron 3. For valve which is more than 600 mm in diameter, water operator is allowed to make any test which they feel necessary before purchasing is made
3	Gate Valve	BS EN 12288:2010 BS EN 1171:2002 BS 5163-1:2004 BS 5163-2:2004 JKR 20200-0077-00	<ol style="list-style-type: none"> 1. O-Ring/ Gasket shall be of EPDM. 2. Body material shall be of Ductile Iron. 3. For valve which is more than 600 mm in diameter, water operator is allowed to make any test which they feel necessary before purchasing is made.
4	Check Valve	BS EN 12334:2001 BS EN 14341:2006	<ol style="list-style-type: none"> 1. O-Ring/ Gasket shall be of EPDM. 2. Body material shall be of Ductile Iron. 3. For valve which is more than 600 mm in diameter, water operator is allowed to make any test which they feel necessary before purchasing is made

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
F. CENTRIFUGAL PUMP			
1	All types of pump	ISO 9906:2012 (any total adoption of this standard also acceptable)	<p>Registered pumps are subject to the following conditions:</p> <p>1.1 <u>For internal plumbing system that will be maintained by the owner premises</u></p> <p>1.1.1 Booster pumps of capacity lower than 10m³/hr (<10m³/hr) shall have efficiencies of not less than 45%.</p> <p>1.1.2 Booster pumps of capacity equal and exceeding 10m³/hr (≥10m³/hr) but lower than 30m³/hr (< 30m³/hr) shall have efficiencies of not less than 50%.</p> <p>1.1.3 The efficiency of all types of booster pumps of higher capacity shall meet the minimum requirement tabulated under item 1.2.1 below.</p> <p>1.1.4 Compliance with EFF1 rating for booster pump motors is voluntary. However, building conforming to Green Building Rating should have pump motors complying with EFF1 rating.</p>

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS																																																
	All types of pump <i>(continued)</i>		<p>1.2 <u>For external reticulation system that will be handed over and maintained by the water operators</u></p> <p>1.2.1 Design Criteria for Pump sets:</p> <table border="1" data-bbox="874 548 1445 1951"> <thead> <tr> <th data-bbox="874 548 951 1077">Pumping Rate Per Pump (m³/hr)</th> <th data-bbox="951 548 1027 1077">Number of Pump Sets</th> <th data-bbox="1027 548 1082 1077">Total Pump Sets</th> <th data-bbox="1082 548 1136 1077">Pumping Hours</th> <th data-bbox="1136 548 1212 1077">Minimum Pump Efficiency (%)</th> <th data-bbox="1212 548 1289 1077">Maximum Pumping Head (m)</th> <th colspan="2" data-bbox="1289 548 1445 647">Maximum Speed (rpm)</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <th data-bbox="1289 647 1366 1077">Horizontal Split Casing Pumps</th> <th data-bbox="1366 647 1445 1077">End Suction Pumps</th> </tr> </thead> <tbody> <tr> <td data-bbox="874 1077 951 1288">≥ 1000</td> <td data-bbox="951 1077 1027 1288">On Duty = 4 Standby = 2</td> <td data-bbox="1027 1077 1082 1288">6</td> <td data-bbox="1082 1077 1136 1288">12</td> <td data-bbox="1136 1077 1212 1288">80</td> <td data-bbox="1212 1077 1289 1288">75</td> <td data-bbox="1289 1077 1366 1288">1,500</td> <td data-bbox="1366 1077 1445 1288">-</td> </tr> <tr> <td data-bbox="874 1288 951 1512">≥ 300 < 1000</td> <td data-bbox="951 1288 1027 1512">On Duty = 2 Standby = 2</td> <td data-bbox="1027 1288 1082 1512">4</td> <td data-bbox="1082 1288 1136 1512">12</td> <td data-bbox="1136 1288 1212 1512">75</td> <td data-bbox="1212 1288 1289 1512">75</td> <td data-bbox="1289 1288 1366 1512">1,500</td> <td data-bbox="1366 1288 1445 1512">-</td> </tr> <tr> <td data-bbox="874 1512 951 1736">≥ 100 < 300</td> <td data-bbox="951 1512 1027 1736">On Duty = 1 Standby = 1</td> <td data-bbox="1027 1512 1082 1736">2</td> <td data-bbox="1082 1512 1136 1736">12</td> <td data-bbox="1136 1512 1212 1736">70</td> <td data-bbox="1212 1512 1289 1736">75</td> <td data-bbox="1289 1512 1366 1736">1500</td> <td data-bbox="1366 1512 1445 1736">2900</td> </tr> <tr> <td data-bbox="874 1736 951 1951">≥ 30 < 100</td> <td data-bbox="951 1736 1027 1951">On Duty = 1 Standby = 1</td> <td data-bbox="1027 1736 1082 1951">2</td> <td data-bbox="1082 1736 1136 1951">12</td> <td data-bbox="1136 1736 1212 1951">60</td> <td data-bbox="1212 1736 1289 1951">75</td> <td data-bbox="1289 1736 1366 1951">-</td> <td data-bbox="1366 1736 1445 1951">2900</td> </tr> </tbody> </table>	Pumping Rate Per Pump (m ³ /hr)	Number of Pump Sets	Total Pump Sets	Pumping Hours	Minimum Pump Efficiency (%)	Maximum Pumping Head (m)	Maximum Speed (rpm)								Horizontal Split Casing Pumps	End Suction Pumps	≥ 1000	On Duty = 4 Standby = 2	6	12	80	75	1,500	-	≥ 300 < 1000	On Duty = 2 Standby = 2	4	12	75	75	1,500	-	≥ 100 < 300	On Duty = 1 Standby = 1	2	12	70	75	1500	2900	≥ 30 < 100	On Duty = 1 Standby = 1	2	12	60	75	-	2900
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	All types of pump <i>(continued)</i>		<p>1.2.2 Material Condition:</p> <p>1.2.2.1 General conditions:</p> <table border="1" data-bbox="863 427 1453 730"> <thead> <tr> <th data-bbox="868 434 938 488">NO</th> <th data-bbox="938 434 1091 488">PART</th> <th data-bbox="1091 434 1449 488">MATERIAL</th> </tr> </thead> <tbody> <tr> <td data-bbox="868 488 938 595">1</td> <td data-bbox="938 488 1091 595">Pump shaft</td> <td data-bbox="1091 488 1449 595">The material shall be of Stainless Steel Grade 420 or better.</td> </tr> <tr> <td data-bbox="868 595 938 723">2</td> <td data-bbox="938 595 1091 723">Bolt & Nuts</td> <td data-bbox="1091 595 1449 723">All exposed bolts and nuts in the construction for the pump shall be cadmium treated or hot dipped galvanized.</td> </tr> </tbody> </table> <p>1.2.2.2 Specific Conditions for Horizontal Split Casing Pump:</p> <table border="1" data-bbox="863 902 1453 1487"> <thead> <tr> <th data-bbox="868 909 938 963">NO</th> <th data-bbox="938 909 1091 963">PART</th> <th data-bbox="1091 909 1449 963">MATERIAL</th> </tr> </thead> <tbody> <tr> <td data-bbox="868 963 938 1144">1</td> <td data-bbox="938 963 1091 1144">Pump casing</td> <td data-bbox="1091 963 1449 1144">Shall be axially split grey cast iron or ductile iron type, and be fitted with high tensile steel shafts running on ball or roller bearings with suitable lubricating arrangements.</td> </tr> <tr> <td data-bbox="868 1144 938 1368">2</td> <td data-bbox="938 1144 1091 1368">Impeller, neck rings, sleeves, gland, lantern ring and bushes</td> <td data-bbox="1091 1144 1449 1368">The material shall be of zinc-free bronze or stainless steel.</td> </tr> <tr> <td data-bbox="868 1368 938 1480">3</td> <td data-bbox="938 1368 1091 1480">Gland seal</td> <td data-bbox="1091 1368 1449 1480">The material shall be silicon carbide or tungsten carbide mechanical seal type.</td> </tr> </tbody> </table> <p>1.2.2.3 Specific Conditions for End Suction Pump:</p> <table border="1" data-bbox="863 1666 1453 1928"> <thead> <tr> <th data-bbox="868 1673 938 1727">NO</th> <th data-bbox="938 1673 1091 1727">PART</th> <th data-bbox="1091 1673 1449 1727">MATERIAL</th> </tr> </thead> <tbody> <tr> <td data-bbox="868 1727 938 1834">1</td> <td data-bbox="938 1727 1091 1834">Gland seal</td> <td data-bbox="1091 1727 1449 1834">The material shall be silicon carbide or tungsten carbide mechanical seal type.</td> </tr> <tr> <td data-bbox="868 1834 938 1928">2</td> <td data-bbox="938 1834 1091 1928">Impeller</td> <td data-bbox="1091 1834 1449 1928">The material shall be of zinc-free bronze or stainless steel.</td> </tr> </tbody> </table>	NO	PART	MATERIAL	1	Pump shaft	The material shall be of Stainless Steel Grade 420 or better.	2	Bolt & Nuts	All exposed bolts and nuts in the construction for the pump shall be cadmium treated or hot dipped galvanized.	NO	PART	MATERIAL	1	Pump casing	Shall be axially split grey cast iron or ductile iron type, and be fitted with high tensile steel shafts running on ball or roller bearings with suitable lubricating arrangements.	2	Impeller, neck rings, sleeves, gland, lantern ring and bushes	The material shall be of zinc-free bronze or stainless steel.	3	Gland seal	The material shall be silicon carbide or tungsten carbide mechanical seal type.	NO	PART	MATERIAL	1	Gland seal	The material shall be silicon carbide or tungsten carbide mechanical seal type.	2	Impeller	The material shall be of zinc-free bronze or stainless steel.
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	All types of pump <i>(continued)</i>		<p>1.2.3 Class Definition for Electrical Motors:</p> <p>All motors shall be of the High Efficiency Motor standard type, i.e. EFF1 CEMEP-EU standard, Class 1 as detailed in the table below. Motors of capacity greater than 90 kW shall have an efficiency of not less than 95.0%. Compliance to this Clause is mandatory for external pumping stations.</p> <table border="1" data-bbox="874 745 1442 1980"> <thead> <tr> <th data-bbox="874 745 1054 927" rowspan="2">MOTOR CAPACITY (kW)</th> <th colspan="2" data-bbox="1054 745 1442 853">MOTOR EFFICIENCY Class EFF1 (%)</th> </tr> <tr> <th data-bbox="1054 853 1246 927">2-Pole Motors</th> <th data-bbox="1246 853 1442 927">4-Pole Motors</th> </tr> </thead> <tbody> <tr><td>1.1</td><td>≥ 82.8</td><td>≥ 83.8</td></tr> <tr><td>1.5</td><td>≥ 84.1</td><td>≥ 85.0</td></tr> <tr><td>2.2</td><td>≥ 85.6</td><td>≥ 86.4</td></tr> <tr><td>3</td><td>≥ 86.7</td><td>≥ 87.4</td></tr> <tr><td>4</td><td>≥ 87.6</td><td>≥ 88.3</td></tr> <tr><td>5.5</td><td>≥ 88.6</td><td>≥ 89.2</td></tr> <tr><td>7.5</td><td>≥ 89.5</td><td>≥ 90.1</td></tr> <tr><td>11</td><td>≥ 90.5</td><td>≥ 91.0</td></tr> <tr><td>15</td><td>≥ 91.3</td><td>≥ 91.8</td></tr> <tr><td>18.5</td><td>≥ 91.8</td><td>≥ 92.2</td></tr> <tr><td>22</td><td>≥ 92.2</td><td>≥ 92.6</td></tr> <tr><td>30</td><td>≥ 92.9</td><td>≥ 93.2</td></tr> <tr><td>37</td><td>≥ 93.3</td><td>≥ 93.6</td></tr> <tr><td>45</td><td>≥ 93.7</td><td>≥ 93.9</td></tr> <tr><td>55</td><td>≥ 94.0</td><td>≥ 94.2</td></tr> <tr><td>75</td><td>≥ 94.6</td><td>≥ 94.7</td></tr> <tr><td>90</td><td>≥ 95.0</td><td>≥ 95.0</td></tr> <tr><td>37</td><td>≥ 93.3</td><td>≥ 93.6</td></tr> </tbody> </table>	MOTOR CAPACITY (kW)	MOTOR EFFICIENCY Class EFF1 (%)		2-Pole Motors	4-Pole Motors	1.1	≥ 82.8	≥ 83.8	1.5	≥ 84.1	≥ 85.0	2.2	≥ 85.6	≥ 86.4	3	≥ 86.7	≥ 87.4	4	≥ 87.6	≥ 88.3	5.5	≥ 88.6	≥ 89.2	7.5	≥ 89.5	≥ 90.1	11	≥ 90.5	≥ 91.0	15	≥ 91.3	≥ 91.8	18.5	≥ 91.8	≥ 92.2	22	≥ 92.2	≥ 92.6	30	≥ 92.9	≥ 93.2	37	≥ 93.3	≥ 93.6	45	≥ 93.7	≥ 93.9	55	≥ 94.0	≥ 94.2	75	≥ 94.6	≥ 94.7	90	≥ 95.0	≥ 95.0	37	≥ 93.3	≥ 93.6
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MOTOR CAPACITY (kW)	MOTOR EFFICIENCY Class EFF1 (%)																				
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G. CHEMICALS FOR WATER TREATMENT																					
1	All type of chemicals	Not Applicable	<ol style="list-style-type: none"> <li data-bbox="874 1043 1441 1189">1. Certificate of Analysis (CoA) submission to water operators is required for every batch of chemicals delivered <li data-bbox="874 1216 1441 1507">2. Halal Certificate issued by: <ul style="list-style-type: none"> <li data-bbox="938 1261 1441 1339">• Department of Islamic Development Malaysia (JAKIM); <li data-bbox="938 1346 1441 1424">• local Islamic bodies recognized by JAKIM; <li data-bbox="938 1431 1441 1507">• foreigner bodies recognized by JAKIM <li data-bbox="874 1541 1441 1574">3. Safety Data Sheet (SDS) 																		
2	Chlorine	MS 171:2013	<ol style="list-style-type: none"> <li data-bbox="874 1626 1441 1816">1. <u>Chlorine Drum</u> Supplier shall comply with: <ul style="list-style-type: none"> <li data-bbox="938 1704 1441 1738">• BS 1500; <li data-bbox="938 1744 1441 1778">• ASME Sect VIII; or <li data-bbox="938 1785 1441 1816">• any equivalent standard <li data-bbox="874 1850 1441 1995">2. <u>Chlorine Cylinder</u> Supplier shall comply with: <ul style="list-style-type: none"> <li data-bbox="938 1928 1441 1962">• JIS B 8421; or <li data-bbox="938 1968 1441 1995">• any equivalent standard 																		

NO.	PRODUCT NAME	RECOGNIZED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
H. LINING / COATING / WATERPROOFING / SEALANT / ADHERSIVE / SOLVENT CEMENT			
1	All type of: <ul style="list-style-type: none"> • Lining • Coating • Waterproofing • Sealant • Adhesive • Solvent Cement 	NSF/ANSI 61	1. Safety Data Sheet (SDS) 2. Safety procedure of the product 3. Detail information of applicant of the product: <ul style="list-style-type: none"> • CIDB Green Card • SPAN Permit • Training Certificate
		MS 1583: Part 1: 2003	

APPENDIX C2

SPAN Additional Requirement or Condition for Specific Products

(SEWERAGE SYSTEM PRODUCTS)

SEWERAGE SYSTEM PRODUCTS

Definition:

Design and Built - *design, built, install, testing and commissioning of products shall be done by same supplier*

Supply and Install – *supplied, installed, testing and commissioning of products shall be done by same supplier*

NO	PRODUCT NAME	RECOGNISED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
A. SEWAGE CONVEYANCE			
1	Poly(Vinyl Chloride) PVC Pipes <ul style="list-style-type: none"> • PVC-C • PVC-M • PVC-U 	MS 979: Part 1:1985 MS 979: Part 2:1985 BS EN 1401-1:2009	Pipe can only be used for: <ul style="list-style-type: none"> a) Internal piping in sewerage facilities; b) Internal sanitary piping.
2	Sewer Liner <ul style="list-style-type: none"> • Cured-in-place pipes (CIPP) 	BS EN ISO 11296:2011 Part 1, Part 2, Part 3 & Part 4 ASTM F2019-11 ASTM D5813-04 (2012) ASTM F1216-16	1. Product shall be supplied in design and build mode.
3	Sewer liner <ul style="list-style-type: none"> • Glass-fiber Reinforced Pipe (GRP) Slip Lining • High Density Polyethylene (HDPE) Lining 	BS EN ISO 11296:2011 Part 1, Part 2, Part 3 & Part 4 BS EN ISO 178:2010 +A1:2013	1. Product shall be supplied in design and build mode.

NO	PRODUCT NAME	RECOGNISED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
B. TREATMENT SYSTEM			
1	Package Plant	SPAN TS 1401:2010 (A1:2013) Part 1	<ol style="list-style-type: none"> 1. System shall be supplied in design and build mode. 2. All mechanical equipment, instrumentation, pipes and valves to be used in the system must be SPAN registered. 3. Details of model and design criteria shall be submitted to the Sewerage Certifying Agencies during application for approval of plan for sewerage system
		SPAN TS 1401:2010 (A1:2013) Part 2:	
		Pilot Project	
2	Small Sewage Treatment System <ul style="list-style-type: none"> • Glass-fiber Reinforced Plastic (GRP) • High Density Polyethylene (HDPE) 	MS 2441-2:2014	<ol style="list-style-type: none"> 1. System shall be supplied in design and build mode. 2. All mechanical equipment, instrumentation, pipes and valves to be used in the system must be SPAN registered. 3. Details of model and design criteria shall be submitted to the Sewerage Certifying Agencies during application for approval of plan for sewerage system.
C. AERATION			
1	Diffuser <ul style="list-style-type: none"> • Disc • Tube/Pipe • Panel 	CJ/T 264-2007	<u>Tube diffuser</u> <ol style="list-style-type: none"> 1. Installation of tube diffuser which effective length is 1000mm or more shall be anchored according to the specification to avoid floating. 2. Product cannot be used for package Plant.
		HJ/T 252-2006	

NO	PRODUCT NAME	RECOGNISED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
D. AIR SUPPLY			
1	Air Blower	<p><u>For blowing application</u> BS ISO 1217:2009 Displacement Compressors. Acceptance tests</p> <hr/> <p>JIS B 8341 Testing methods for displacement compressors.</p> <hr/> <p>KS B 6350:2008 Testing Method for Turbo Blowers and Compressor.</p> <hr/> <p>JB/T 8941.2-1999 (Roots Type Blowers for General Purpose) Part 2: Performance test methods.</p>	<p><u>Diaphragm blower</u> Product can only be used in small sewage treatment system (SSTS) only.</p>
E. CLARIFIER / SEDIMENTATION			
1	Scum Skimmer	Manufacturer Specification	Product shall be supplied in supply and install mode.
2	Sludge Scraper	Manufacturer Specification	Product shall be supplied in supply and install mode.
3	Sludge Scraper & Scum Skimmer	Manufacturer Specification	Product shall be supplied in supply and install mode.

NO	PRODUCT NAME	RECOGNISED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
F. GRIT & GREASE REMOVAL			
1	Grease Collector	Manufacturer Specification	Product shall be supplied in supply and install mode.
2	Grit & Grease Collector	Manufacturer Specification	Product shall be supplied in supply and install mode.
3	Grit Collector	Manufacturer Specification	Product shall be supplied in supply and install mode.
4	Grit Transfer Pump (Centrifugal) <ul style="list-style-type: none"> • Submersible • End suction • Self priming 	ISO 9906:2012 <i>(any total adoption of this standard also acceptable)</i> Grades 1B/1E/1U and 2B	1. Minimum pass through opening: 50mm 2. Minimum suction and discharge opening: 80mm 3. Minimum pump efficiency: 40% (for < 5.5 kW) 60% (for > 5.5 kW) 4. Maximum rpm: 1500 5. Motor: 4-pole only
		ANSI/HI 14.6:2011 Grades 1B/1E/1U and 2B	
G. ODOUR CONTROL & TREATMENT			
1	Odour Control & Treatment <ul style="list-style-type: none"> • Biofiltration • Bioscrubbing • Carbon Adsorption • Deodorizer • Liquid Redox • Photoionisation • Solid Scavenger • Wet Air Scrubbing 	Manufacturer Specification	1. System shall be supplied in design and build mode. 2. All mechanical equipment, instrumentation, pipes and valves to be used in the system must be registered

NO	PRODUCT NAME	RECOGNISED STANDARDS	SPAN ADDITIONAL REQUIREMENTS
H. RAW SEWAGE PUMPING			
1	Pump (Centrifugal) <ul style="list-style-type: none"> • Submersible • End suction • Self priming 	ISO 9906:2012 <i>(any total adoption of this standard also acceptable)</i> Grades 1B/1E/1U and 2B <hr/> ANSI/HI 14.6:2011 Grades 1B/1E/1U and 2B	<u>Raw Sewage Application</u> <ol style="list-style-type: none"> 1. Minimum pass through opening: 75mm 2. Minimum suction and discharge opening: 100mm 3. Minimum pump efficiency: 60% 4. Maximum rpm: 1500 5. Motor: 4-pole only
I. SLUDGE TREATMENT			
1	Gravity Thickener	Manufacturer Specification	Product shall be supplied in supply and install mode.
2	Sludge Transfer (Centrifugal) <ul style="list-style-type: none"> • Submersible • End Suction • Self Priming 	ISO 9906:2012 <i>(any total adoption of this standard also acceptable)</i> Grades 1B/1E/1U and 2B <hr/> ANSI/HI 14.6:2011 Grades 1B/1E/1U and 2B	<ol style="list-style-type: none"> 1. Minimum pass through opening: 50mm 2. Minimum suction and discharge opening: 80mm 3. Minimum pump efficiency: 40% (for < 5.5 kW) 60% (for > 5.5 kW) 4. Maximum rpm: 1500 5. Motor: 4-pole only

GLOSSARY

GLOSSARY OF STANDARD NUMBER

BIL	TYPE OF STANDARD	PUBLISHER
PRODUCT STANDARD		
1	IEC	International Electrotechnical Commission
2	ISO	International Organization for Standardization
3	Directive	The European Parliament and of The Council
4	EN	European Committee for Standardization
5	AS/NZS	Standards Australia & Standards New Zealand
6	ANSI	American National Standards Institute
7	AS	Standards Australia
8	BS	British Standards
9	CNS	Chinese National Standards (Taiwan)
10	DIN	German Institute for Standardisation (Deutsches Institut für Normung)
11	GB/T	Standardization Administration of China (Voluntary National Standards)
12	JIS	Japanese Standards Association - Japanese Industrial Standards
13	KS	Korean Standards Association
14	MS	Malaysia Standards
15	ÖNORM	Austrian Standards Institute
16	SNZ	Standards New Zealand
17	SS	Singapore Standards
INDUSTRIAL STANDARD		
1	ASCE	American Society of Civil Engineers
2	ASME	American Society of Mechanical Engineers
3	ASTM	American Society for Testing Material
4	AWWA	American Water Works Association
5	CJ/T	Urban Construction Standards, China
6	DVGW	German Technical and Scientific Association for Gas and Water (Deutscher Verein des Gas- und Wasserfaches)
7	EWRI	Environmental & Water Resources Institute, ASCE
8	HI	Hydraulic Institute, USA
9	HJ/T	Environmental Protection Standard, China
10	IASC	International Association of Classification Societies Ltd, UK
11	IEEE	Institute of Electrical and Electronics Engineers
12	JB/T	Machinery Industry Standards, China
13	MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
14	NSF	NSF International, USA
15	NSF SE	NSF International - Special Engineered Specification
16	NWRI	National Water Research Institute, USA
17	OIML	International Organization of Legal Metrology (Organisation Internationale de Métrologie Légale)
18	SAS	Japan Stainless Steel Association
19	SIRIM	Standard & Industrial Research Institute of Malaysia
TECHNICAL SPECIFICATION		
1	JKR Specification	Public Work Department, Malaysia
2	SPAN TS	National Water Services Commission, Malaysia
OTHERS REQUIREMENT		
1	Manufacturer Std	Manufacturer of product
2	Calibration Report	Factory Lab / Third Party Lab which accredited by ISO/IEC 17025:2005

