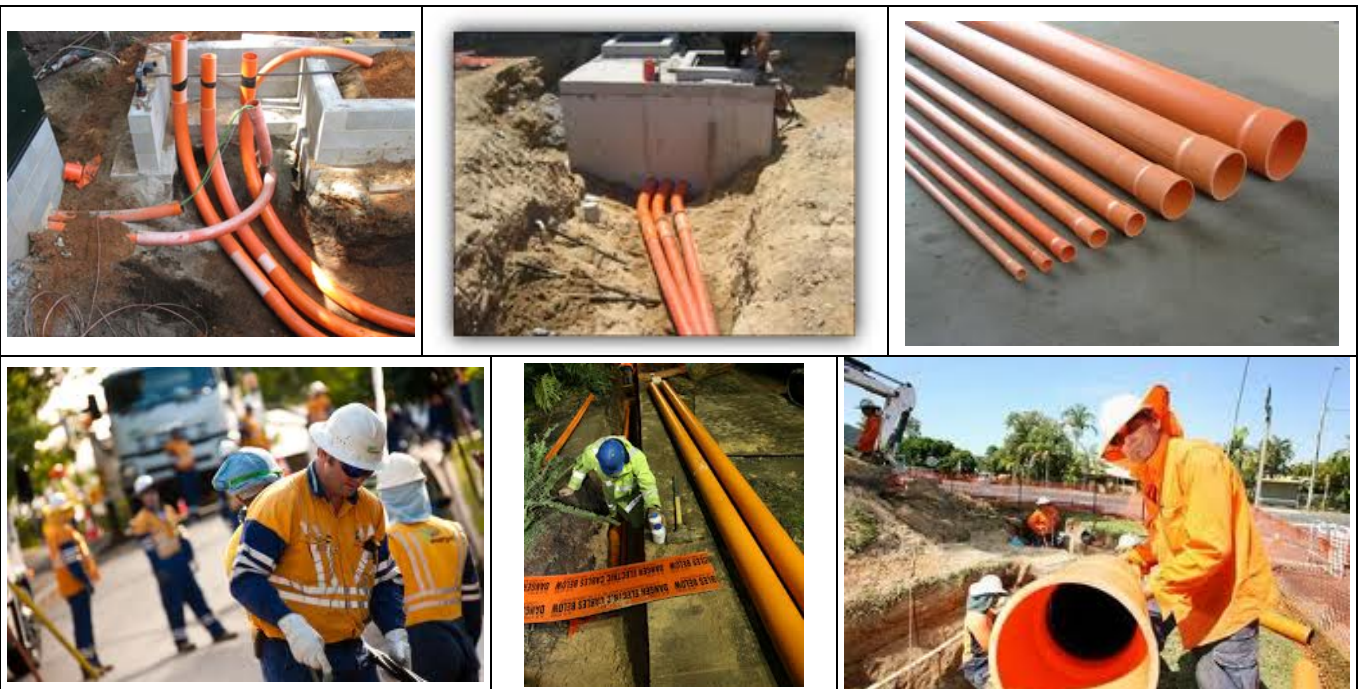


Conduits

Technical Specification for Conduits and Associated Materials

JTS-14-05-01
Version 1



positive energy



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1. DEFINITIONS

'Batch' means as a single production run of a single set of input materials used for the output of the Materials.

'ENERGEX' means ENERGEX Limited ABN 40 078 849 055.

'Ergon' means Ergon Energy Corporation Limited ABN 50 087 646 062.

'Materials' means items, goods or product.

'Principal' means ENERGEX and or Ergon.

'Specification' means this technical specification.

'Supplier' means tenderer or person who responds to the request for offers comprised by the Tender Documents during the tender period or person who is awarded the Contract to supply Materials defined in this Specification post contract award.

2. PURPOSE & SCOPE

This specification sets out the principal's requirements for the manufacture, testing and delivery of conduits, pipe, conduit fittings, polymeric cable-protection cover, end plugs and polymeric marker tape for the installation and protection of cables in electrical underground sub-transmission and distribution systems.

Items covered by this technical specification are listed as follows:-

DESCRIPTION
GROUP A: PVC Rigid Electrical Conduit to AS2053
GROUP B: PVC Rigid Telecom Conduit to AS2053
GROUP C: PVC Flexible Conduit to AS2053
GROUP D: Polyethylene Pipe to AS4130
GROUP E: PVC Split Conduit to AS2053
GROUP F: PVC Rigid Conduit Bends to AS2053
GROUP G: PVC Coupling / Coupling Adaptors to AS2053
GROUP H: PVC End Plugs / Caps to AS2053
GROUP I: Cover Strips to AS4702
GROUP J: MARKER TAPE TO AS2648

This Specification specifically covers the following Materials:

Technical Specification

Conduits and Associated Materials



Item No.	Nom. Dia.	Length	ENERGEX Stock Code	Ergon Energy Stock Code
GROUP A: PVC RIGID ELECTRICAL CONDUIT TO AS2053				
GREY, LT DUTY				
1	16 MM	35 MM	20231	
2	20 MM	55 MM	19944	
3	20 MM	4000 MM	4843	2113226
4	25 MM	4000 MM	4844	
5	150 MM	600 MM	12141	
GREY, MED DUTY				
6	16 MM	4000 MM		2403887
7	20 MM	4000 MM		2403888
8	25 MM	4000 MM		2403889
9	32 MM	4000 MM	30070	
10	40 MM	4000 MM	16912	2406678
11	50 MM	4000 MM	30071	
ORANGE, LT DUTY				
12	80 MM	4500 MM	18129	
13	80 MM	6000 MM	30078	1865596
14	100 MM	4500 MM	18128	
15	100 MM	6000 MM	30079	1865617
16	125 MM	4500 MM	18127	
17	125 MM	6000 MM	19931	104328
18	150 MM	4500 MM	18126	
19	150 MM	6000 MM		1865625
20	200 MM	6000 MM	20196	
ORANGE, HVY DUTY				
21	20 MM	4000 MM	30072	
22	25 MM	4000 MM	30073	2406676
23	30 MM	4000 MM	30074	2400384
24	40 MM	4000 MM	18131	2406677
25	50 MM	4000 MM	21199	1865595
26	63 MM	4000 MM	30075	
27	80 MM	4000 MM	30076	104329
28	100 MM	4000 MM	18130	1865668
29	125 MM	4000 MM		104327
30	150 MM	4000 MM	30077	1865684
GROUP B: PVC RIGID TELECOMMS CONDUIT TO AS2053				
WHITE, LT DUTY				
31	20 MM	4000 MM	30080	
32	25 MM	4000 MM	30081	
33	32 MM	4000 MM	30082	
34	50 MM	4000 MM	30083	104458
35	50 MM	4500 MM	18076	
36	80 MM	6000 MM	30084	
WHITE, MED DUTY				
37	100 MM	6000 MM	20641	
38	100 MM	4500 MM	22258	
WHITE, MED DUTY, PN6 PRESSURE PIPE				
39	200 MM	6000 MM	19751	

Technical Specification Conduits and Associated Materials



Item No.	Nom. Dia.	Length	ENERGEX Stock Code	Ergon Energy Stock Code
GROUP C: PVC FLEXIBLE CONDUIT TO AS2053				
CORRUGATED, WHITE, MED DUTY				
40	16 MM	50 M ROLL	16412	
CORRUGATED, GREY, MED DUTY				
41	25 MM	50 M ROLL	16023	
CORRUGATED, ORANGE, HVY DUTY				
GROUP D: POLYETHYLENE FLEXIBLE PIPE TO AS4130				
PN12.5 FLEXIBLE PE PIPE				
42	16 MM	300 M ROLL	3639	
GROUP E: PVC SPLIT CONDUIT TO AS2053				
WHITE, MED DUTY				
43	25 MM	3000 MM	16914	

Item No.	Nom. Dia.	Radius	ENERGEX Stock Code	Ergon Energy Stock Code
GROUP F: PVC RIGID CONDUIT BENDS TO AS2053				
SINGLE ENDED, 90 DEG, LT DUTY, ORANGE				
44	80 MM	450 MM	12475	2400399
45	80 MM	750 MM	17513	104482
46	100 MM	600 MM		1865692
47	100 MM	750 MM	17514	
48	100 MM	1000 MM		2405961
49	100 MM	1830 MM		2406683
50	150 MM	1000 MM		2400410
SINGLE ENDED, 90 DEG, HVY DUTY, ORANGE Special - see DWG EE 875254-01				
51	40 MM	300 MM with 25 MM reducer		2406996
SINGLE ENDED, 90 DEG, HVY DUTY, ORANGE				

52	100 MM	460 MM		2438703
53	100 MM	1000 MM		2438778
54	100 MM	1600 MM		2438679
55	150 MM	635 MM		2438729
56	150MM	1000 MM		2438786
57	150 MM	1830 MM		2438646
DOUBLE ENDED, 90 DEG, LT DUTY, ORANGE				
58	80 MM	450 MM	15271	
59	80 MM	750 MM		104482
60	80 MM	1000 MM		104675
61	125 MM	600 MM	19887	
62	125 MM	900 MM	19888	
63	125 MM	1200 MM	19889	
DOUBLE ENDED, 90 DEG, HVY DUTY, ORANGE				
64	20 MM	152 MM	30058	
65	25 MM	152 MM	30059	2406679
66	32 MM	304 MM	30060	1865698
67	40 MM	300 MM	6514	2406976

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Item No.	Nom. Dia.	Radius	ENERGEX Stock Code	Ergon Energy Stock Code
68	40 MM	600 MM	17030	2400406
69	50 MM	350 MM		2400382
70	50 MM	304 MM	21198	1865676
71	63 MM	304 MM	30061	
72	80 MM	356 MM	30062	2403745
73	100 MM	460 MM	30063	2439703
74	125 MM	900 MM		104430
75	125 MM	1000 MM		104475
76	150 MM	635 MM	30064	2403747
SINGLE ENDED, 60 DEG, LT DUTY, ORANGE				
77	125 MM	1000 MM		2429868
SINGLE ENDED, 45 DEG, LT DUTY, ORANGE				
78	80 MM	1200 MM	16674	2400403
79	80 MM	1830 MM	6519	2400402
80	100 MM	460MM		1865688
81	100 MM	1200 MM	16621	
82	100 MM	1830 MM	6522	2400396
83	100MM	2400 MM		104323
84	125 MM	1200 MM	16620	
85	125 MM	1830 MM	15265	104326
86	125 MM	2400 MM		104454
87	150 MM	1830 MM	6523	2400407
SINGLE ENDED, 45 DEG, HVY DUTY, ORANGE				
88	100 MM	1000 MM		2438752
89	100 MM	1600 MM		2438687
90	100 MM	1830 MM		2438836
91	150 MM	635 MM		2438711
92	150 MM	1000 MM		2438760
93	150 MM	1830 MM		2438653
DOUBLE ENDED, 45 DEG, HVY DUTY, ORANGE				
94	50 MM	320 MM		2405974
DOUBLE ENDED, 45 DEG, LT DUTY, ORANGE				
95	80 MM	1830 MM	15272	
96	100 MM	1200 MM	30089	
97	125 MM	1000 MM		2439560
SINGLE ENDED, 30 DEG, LT DUTY, ORANGE				
98	80 MM	1830 MM	6518	2400404
99	100 MM	584 MM		2405973
100	100 MM	1830 MM	6521	2400401
101	100 MM	2400 MM		104322
102	125 MM	1830 MM	15266	104325
103	125 MM	2400 MM		104452
DOUBLE ENDED, 30 DEG, LT DUTY, ORANGE				
104	125 MM	1830 MM	16617	
SINGLE ENDED, 30 DEG, HVY DUTY, ORANGE				
105	100 MM	1000 MM		2438737
106	100 MM	1830 MM		2438810
107	150 MM	1000 MM		2438745
108	150 MM	1830 MM		2438828
SINGLE ENDED, 22.5 DEG, LT DUTY, ORANGE				

Technical Specification Conduits and Associated Materials



Item No.	Nom. Dia.	Radius	ENERGEX Stock Code	Ergon Energy Stock Code
109	100 MM	460 MM		1865702
SINGLE ENDED, 22.5 DEG, HVY DUTY, ORANGE				
110	100 MM	600 MM		2438844
111	100 MM	1600 MM		2438695
112	150 MM	1830 MM		2438661
SINGLE ENDED, 15 DEG, LT DUTY, ORANGE				
113	100 MM	1830 MM	6520	2400400
114	100 MM	2400 MM		104321
115	125 MM	1830 MM	15267	104324
116	125 MM	2400 MM		104457
DOUBLE ENDED, 15 DEG, LT DUTY, ORANGE				
117	80 MM	1830 MM	30065	2400405
118	100 MM	1830 MM	15270	
119	125 MM	1830 MM	16618	104324
SINGLE ENDED, 15 DEG, HVY DUTY, ORANGE				
120	100 MM	1830 MM		2438794
121	150 MM	1830 MM		2438802
SINGLE ENDED, 15 DEG, MED DUTY, ORANGE				
122	200 MM	800 MM	21726	
SINGLE ENDED, 90 DEG, LT DUTY, WHITE				
123	50 MM	305 MM	18072	
124	50 MM	800 MM	18073	
DOUBLE ENDED, 90 DEG, LT DUTY, WHITE				
125	20 MM	152 MM	30066	
126	32 MM	305 MM	30067	
127	50MM	305 MM		104455
128	80 MM	600 MM	30068	
129	100 MM	584 MM	30069	
130	100 MM	500 MM	18074	
SINGLE ENDED, 90 DEG, MED DUTY, WHITE				
131	100 MM	750 MM	21480	
SINGLE ENDED, 45 DEG, LT DUTY, WHITE				
132	50 MM	305 MM	TBA	
DOUBLE ENDED, 45 DEG, LT DUTY, WHITE				
133	50 MM	305 MM		104456
SINGLE ENDED, 45 DEG, MED DUTY, WHITE				
134	100 MM	1830 MM	21479	
SINGLE ENDED, 30 DEG, LT DUTY, WHITE				
135	50 MM	305 MM	TBA	
SINGLE ENDED, 30 DEG, MED DUTY, WHITE				
136	100 MM	1830 MM	21478	
SINGLE ENDED, 15 DEG, LT DUTY, WHITE				
137	50 MM	305 MM	TBA	
SINGLE ENDED, 15 DEG, MED DUTY, WHITE				
138	100 MM	1830 MM	21477	

Technical Specification Conduits and Associated Materials



Item No.	Nom. Dia. 1	Nom. Dia. 2	ENERGEX Stock Code	Ergon Energy Stock Code
GROUP G: PVC COUPLINGS / COUPLING ADAPTORS TO AS2053				
DOUBLE ENDED, LT DUTY, ORANGE				
139	32 MM	32 MM		2403903
140	80 MM	80 MM	10900	2403904
141	100 MM	80 MM	11006	
142	100 MM	100 MM	6662	2406681
143	125 MM	100 MM	16626	
144	125 MM	125 MM	15274	
145	150 MM	150 MM		2405958
DOUBLE ENDED, MD, ORANGE				
146	40 MM	40 MM		2403905
DOUBLE ENDED, HVY DUTY, ORANGE				
147	32 MM	32 MM	22280	
148	40 MM	32 MM	16627	
149	40 MM	40 MM	12478	
150	50 MM	50 MM		2405975
151	50 MM	40 MM	20286	
152	63 MM	63 MM	TBA	
153	100 MM	100 MM		2438851
154	150 MM	125 MM	16987	
155	150 MM	150 MM		2438869
DOUBLE ENDED MD GREY				
156	32 MM	32 MM		2400390
157	50 MM	50 MM		2400391
SOCKETLESS PARALLEL SLIP ACTION, LT DUTY, ORANGE				
158	80 MM	80 MM	13978	
159	100 MM	100 MM	13979	
160	125 MM	125 MM	16624	
BELL MOUTH, HVY DUTY, ORANGE				
161	100 MM	100 MM	21287	2438877
162	125 MM	125 MM	21286	
163	150 MM	150MM		2438885
DOUBLE ENDED, HVY DUTY, ORANGE TO FRC CONDUIT				
164	100 MM	100 MM	6504	
SOCKETLESS SLIP ACTION, ORANGE TO FRC CONDUIT				
165	125 MM	100 MM	15262	
DOUBLE ENDED HFT BLACK				
166	20 MM	20MM		2173061

Item No.	To Suit Nom. Dia.	ENERGEX Stock Code	Ergon Energy Stock Code
GROUP H: PVC END PLUGS / CAPS TO AS2053			
END PLUG, PLASTIC REUSABLE COVER			
167	40 MM	13165	2403900
168	80 MM	4915	2403898
169	100 MM	19596	2403901
170	125 MM	15790	2407074
171	150 MM		2403902
CAP, LT DUTY, ORANGE, MALE END			

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172	200 MM		21727	
CAP, GREY, SWV FITTING				
173	150 MM		12142	
CAP, PUSH-ON TYPE				
174	50 MM		21374	
Item No.	Length	Width	ENERGEX Stock Code	Ergon Energy Stock Code
GROUP I: COVER STRIP TO AS4702				
BLACK / ORANGE COVER STRIP				
175	2000 MM	150 MM	15345	182008
176	25 M ROLL	150 MM	17242	2405966
177	2000 MM	200 MM	15346	2403554
178	2000 MM	300 MM	15347	2405978
179	2000 MM	350 MM	TBA	
Item No.	Length	Width	ENERGEX Stock Code	Ergon Energy Stock Code
GROUP J: MARKER TAPE TO AS2648				
PVC ORANGE MARKER TAPE				
180	500MM ROLL	150 MM		182007

Note: Attention is drawn to the meaning of the nominal sizes of conduits. Sizes 16 mm to 63 mm refer to outside diameters, whereas sizes 65 mm to 150 mm refer to approximate internal diameter.

3. APPLICABLE STANDARDS

The equipment must comply with the latest revision of all relevant Queensland Acts / Regulations and Australian and IEC Standards, and all amendments issued from time to time except where varied by this specification.

Should inconsistencies be identified between standards and/or this specification, the Supplier shall immediately refer such inconsistencies to the Principal for resolution.

Standards that are applicable to this specification include the following:

3.1 Applicable Standards

STANDARD	DESCRIPTION
AS 1345	Identification of the contents of pipes, conduits and ducts
AS 2053 (Parts 1, 2, 4, 5)	Conduits and fittings for electrical installations
AS 2648	Underground marking tape
AS 2700	Colour standards for general purpose
AS 4130	Polyethylene (PE) pipes for pressure applications
AS 4068	Flat pallets for material handling
AS 4702	Polymeric cable-protection covers
ISO 9001:2000	Quality management systems – Requirements
DR94102	Polymeric cable-protection cover

3.2 Other Applicable Standards

DOCUMENT TITLE
Queensland Workplace Health and Safety Act 1995
Queensland Electrical Safety Act 2002
Queensland Workplace Health and Safety Plant Code of Practice 2005
Queensland Workplace Health and Safety Risk Management: “How to manage Work Health And Safety Risks - Code of Practice 2011”

4. DRAWING

The following drawings are included and form part of this Specification:

DRAWING NO.	REV.	TITLE
6229-A4-C1-2-1	C	Conduit Specification and Bends – Sheet 1
6229-A4-C1-2-2	B	Conduit Specification and Bends – Sheet 2
QESI 04-05-01		Unplasticised PVC (UPVC) Conduit Bends

5. SERVICE CONDITIONS

5.1 Environmental Conditions

The conduits and fittings will be exposed to the following underground and above ground environmental conditions.

5.1.1 Underground

Soil	Variable soil conditions ranging from high resistivity rock to normal clays to areas of acidic soils (ph 4 or less) with resistivities less than 20 Ω -m
Temperature	28°C summer day time (maximum) 18°C winter night time (minimum)

5.1.2 Above Ground

Humidity	Extended periods of relative humidity, ranging from 10% to 90%
Solar radiation Level	1100 Wm ² (equivalent to a black body temperature of 80°C)
Ambient temperature range	45°C summer daytime (maximum) -5 °C winter night time (minimum)
Precipitation	Annual rainfall in excess of 1500 mm
Wind speed	Tropical summer storms with gust wind speeds above 160 km/h
Isokeraunic Level	35-40
Pollution	Level IV – very heavy Equivalent salt deposits in the range of 2.0-3.0 g/m ² Areas generally of moderate extent, subjected to conductive dusts and to industrial smoke producing particularly thick conductive deposits — Areas generally of moderate extent, very close to the coast and exposed to seaspray or to very strong and polluting winds from the sea — Desert areas, characterized by no rain for long periods, exposed to strong winds carrying sand and salt , and subjected to regular condensation

5.1.3 Indoors

Humidity	98% average relative humidity during a period of 24 hours
Ambient temperature range	40°C summer daytime (maximum) 0°C winter night time (minimum)

5.2 Extreme Conditions

The Queensland electricity supply area also experiences extreme conditions. Please provide information on how offered Materials will operate in the following conditions (Attachment 1):

- 50°C summer daytime (maximum)
- -10°C winter night time (minimum)
- High relative humidity (90%) combined with rapid temperature drop (20°C in 20 minutes)
- Areas where the use of fertilizers by spraying, or the burning of crop residues, can lead to a higher pollution level than specified above.

5.3 Marine Coast

All Materials supplied under this specification may be installed in marine coastal areas with direct and constant salt spray. Please provide information on how Materials will perform in this extreme environment.

6. DESIGN & CONSTRUCTION

6.1 Classification

6.1.1 Group A and B: PVC Rigid Electrical and Telecoms Conduit

The conduits, pipes and fittings shall be rigid, non-threadable of solid (not composite) construction and shall be made from insulating material in accordance with the requirements of AS 2053.2.

6.1.2 Group C: PVC Flexible Conduit

The conduits, pipes and fittings shall be flexible and non-threadable of solid (not composite) construction and shall be made from insulating material in accordance with the requirements of AS 2053.4 and AS 2053.5.

6.1.3 Group D: Polyethylene Pipe

The conduits, pipes and fittings shall be PE and non-threadable of solid (not composite) construction and shall be made from insulating material in accordance with the requirements of AS 4130.

6.1.4 Group I: Polymeric Cable Covers

The polymeric cable-protection covers shall be in accordance with AS 4702.

6.2 Dimension and Form

6.2.1 Group A and B: PVC Rigid Electrical / Telecoms Conduit

The dimensions of conduit and fittings shall be in accordance with the requirement of AS/NZS 2053 Part 2 or Part 6, and shall comply with details on Drawing No. 6229-A4-C1-2-2 Rev B, and Table 1 below.

Table 1:

NOMINAL CONDUIT DIAMETER	MECHANICAL CLASSIFICATION
32	HD
40	HD
50	HD
80	LD
100	LD
125	LD
150	LD

6.2.1.1 Sockets

Each length of the rigid conduit shall have a socket permanently moulded to one end, which will comply with the requirements of AS/NZS 2053. The socket shall be an integral part of the pipe and suitable for jointing with solvent cement.

6.2.2 Group C: PVC Flexible Conduit

The dimensions of flexible conduit, pipe and fittings shall be in accordance with the requirement of the relevant standards.

6.2.3 Group D: Polyethylene Pipe

The dimensions of polyethylene pipe and fittings shall be in accordance with the requirement of the relevant standards.

6.2.4 Group E: PVC Split Conduit

The dimensions of split conduit, pipe and fittings shall be in accordance with the requirement of the relevant standards.

6.2.5 Group F: PVC Rigid Conduit Bends

Bends are required to provide for change of direction in the conduit installation and shall be in accordance with the requirements of the relevant standards and shall comply with details on Drawing No. 6229-A4-C1-2-1 Rev C.

6.2.5.1 Sockets

Each of the rigid conduit bends shall have a socket permanently formed on one or both ends as stipulated in this specification. The socket shall comply with the requirements of AS 2053. The socket shall be an integral part of the pipe and suitable for jointing with solvent cement.

6.2.6 Group G: PVC Couplings / Coupling Adaptors

Couplings or alternatively adaptors are required to join cut lengths of conduit and shall be a double-ended socket arrangement. The couplings shall be as short as possible with sockets which comply with Clause 5.2.2.1 above. The coupling or adaptors shall comply with the requirements of AS/NZS 2053 Part 2.

6.2.7 Group H: End Plugs / Caps / Bends

6.2.7.1 End Plugs

End plugs are required to seal the conduit pipe from ingress of mud and soil.

6.2.7.1 End Caps

End caps are required to seal the conduit pipe from ingress of mud and soil. The caps shall be press fit onto the conduit and suitable for securing with solvent cement.

6.2.7.1 Bends

Bends are required to provide for change of direction in the conduit installation and shall comply with details on Drawing No. QESI 04-05-01.

6.2.8 Group I: Polymeric Cable-Protection Covers

The dimensions and form of polymeric cable-protection covers shall be in accordance with DR 94102 and AS 4702 and Table 2.

TABLE 2:

POLYMERIC CABLE-PROTECTION COVERS		
NOMINAL WIDTH (mm)	NOMINAL LENGTH (m)	NOMINAL THICKNESS (mm)
150	25 (roll)	3.0 – 5.0
150	2.0	3.0 – 5.0
200		
300		
350		

6.2.9 Group J: Polymeric Marker Tape

The dimensions and manufacture of marker tape shall be in accordance with AS2648. The marker tape shall have a nominal width of 150 mm and a nominal roll length of 350 metres. Marking shall be 35 mm high letters and shall bear the following words in accordance with AS 2648 Part 1:

**'CAUTION CAUTION CAUTION
BURIED ELECTRIC CABLE BELOW'**

6.3 Colour

The background colour of items supplied under this specification shall be in accordance with Table 3 or as specified in AS 1345 and AS 2700.

TABLE 3:

ITEM	COLOUR (TABLE 1)	COLOUR (AS PER AS 1345 & AS 2700)

Conduits and fittings	Orange	Light Orange, as specified in AS 1345 (X15 – AS 2700)
	Grey	Grey
	White	White
Polymeric cable-protection covers	Black / Orange	X15 orange or R11 international orange (AS 2700) with black lettering.
Polymeric marker tape		In accordance with the requirements of AS/NZS 2648.1

6.4 Marking

The permanent marking of all items shall meet the requirements specified in the appropriate Australian Standard.

6.4.1 Group B: PVC Rigid Telecoms Conduit

The permanent marking on white conduits shall be orange and in accordance with the requirements of AS 2053. This marking shall consist of the following text: “**ELECTRICITY AUTHORITY COMMUNICATIONS**”, with a continuous orange stripe (AS 2700 – R11 International Orange) between the text. The stripe shall be the same height as the text.

7. PERFORMANCE AND TESTING

7.1 General

The product/s covered in this specification shall withstand the electrical/mechanical stress associated with continuous operation at the highest system voltage under the environmental conditions described in Clause 5.

7.2 Group A, B, C, E, F, G and H:

The conduit, pipes and fittings shall be Type Tested in accordance with the applicable parts of AS 2053.

In addition, suppliers should provide UV stabilisation test results for **grey** conduit, pipes and fittings where such tests have been performed.

7.3 Group D: Polyethylene (PE) Pipe

The polyethylene pipe shall comply with AS 4130, compliance shall be demonstrated by one of the following methods:-

- Evaluation by means of statistical sampling.
- The use of a product certification scheme.
- Sampling and Testing Frequency Plan

7.4 Group I: Polymeric Cable Protection Covers

The polymeric cable-protection covers shall be Type Tested in accordance with Clause 8 of AS 4702 and applicable parts of DR94102.

7.5 Type Test Compliance

7.5.1 All Equipment offered shall be fully type tested in accordance with the applicable standards outlined in this Specification. Where the equipment offered has been type tested to Standards other than those specified in this Specification, full details of the other Standards are to be provided at the time of tendering.

7.5.2 Copies of original Type Test certificates/ reports shall be included in full [in accordance with the relevant standard (including all drawings, revisions and where applicable, oscillograms and test results as stipulated in the applicable standards as specified in this Specification) with the tender regardless of whether or not the equipment has been supplied previously.

7.5.3 All Equipment of a similar design to that previously tested is offered, consideration may be given to accepting previous type test reports. The Supplier shall state if such tests exist. The Supplier is requested to substantiate their claims of equivalent type test performance with written engineering evaluation, where full Type Test documentation is not submitted for each of the Materials offered. Such evaluation must provide all relevant details so that the Principal can establish the validity of existing type tests.

7.5.4 The Principal prefers that all Type Tests for equipment offered are certified by a laboratory accredited by an Accreditation Entity. An Accreditation Entity is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA), for example; the National Association of Testing Authorities, Australia (NATA). Full accreditation details of the type testing facilities and the accreditation certifying entity and any mutual recognition arrangements with other accreditation entities shall be provided by the Supplier.

7.5.5 Where Type Tests are performed in other unaccredited laboratories/customer facilities, the tests must be witnessed by an endorsed witness or an independent witness approved by the Principal. Details of the independent witness must be provided. Internally generated type test reports shall be to the same standard as expected from an independent accredited laboratory.

7.5.6 The Principal may request repeat of Type Tests to prove compliance to this Specification.

7.5.7 All test certificates must include the manufacturer's serial number(s). On allocation, the Principal's order number, contract/item number and specification number must be added to the certificate, or as an attachment to the test report.

7.6 Batch and Routine Tests

7.6.1 For the purposes of this Specification, a batch shall be defined as a single production run of a single set of input materials used for the output of the Materials. Where the raw materials used in the Materials offered and/ or the manufacturing process have changed, a new batch number shall be allocated.

- 7.6.2 All Equipment offered shall be fully batch and routine tested in Australia, and in accordance with the applicable standards. Where the equipment offered will be batch and routine tested to Standards other than those specified, full details of these Standards are to be provided at the time of tendering. Batch and routine tests to standards other than those specified in this Specification are not permitted without the Principal's written permission.
- 7.6.3 The Supplier shall submit a sampling test plan in accordance with AS1199.1 "Sampling Procedures for Inspection by Attributes", to be agreed to by the Principal, and nominate the approved test facility. The test plan submission shall identify the Materials and quantity to be tested including the frequency of the tests.
- 7.6.4 Prior to delivery of Materials, the Supplier shall have carried out sample failure testing of Materials and components of each batch as specified in accordance with the applicable standards. A copy of the results of all tests carried out (with corresponding batch numbers) shall be forwarded to the Principal prior to delivery of that batch of Materials. All tests shall be carried out at a test facility approved by the Principal. The Principal will not accept a batch if any sampled item or component in that batch fails to meet the test requirements.
- 7.6.5 Prior to each delivery of the Materials or as agreed with the Principal, a "Certificate of Compliance" is to be supplied by the Supplier.
- 7.6.6 The Certificate of Compliance shall state:
- The Batch number, the Supplier's name, the name of the Manufacturing Company, the Country of manufacture, and Location name of the manufacturer.
 - The Materials meet the dimensional tolerances and protective coating requirements specified on the relevant drawings.
 - The Materials have been batch tested in accordance with the applicable standard.

7.7 Acceptance Tests

The Principal may carry out acceptance test on equipment to prove it conforms to the requirements of this Specification. Any equipment showing evidence of failure to comply with the requirements of this specification will be liable to rejection.

7.8 Witnessing of Tests

The Principal reserves the right to witness all testing. The Supplier shall give the Principal reasonable notice of when testing will be carried out.

7.9 Compliance

The Supplier shall state in writing that their offer complies with the relevant Standards and this specification. If the Supplier is offering equipment manufactured to an equivalent standard, full details of that standard must be given including a copy written in English.

8. QUALITY ASSURANCE

- 8.1 It is expected that Suppliers will have a quality system certified to ISO 9001:2000 in operation. Tenders shall complete Attachment 10.

- 8.2** Documentary evidence shall be provided concerning the level of Quality System Certification associated with the Supplier and/or Manufacturer. This documentation shall include the Capability Statement associated with the Quality System Certification.

9. RISK ASSESSMENT

- 9.1** Tenderers must comply with the requirements of the Queensland Workplace Health and Safety Act 1995, Queensland Electrical Safety Act 2002 and associated regulations, codes of practice and compliance/ advisory to Attachment 11).
- 9.2** Tendered items shall be subjected to a formal risk assessment. Queensland Workplace Health and Safety Plant Code of Practice 2005 require the Tenderer to perform a risk assessment and provide the resultant documentation to ENERGEX with their tender. Where risk assessment documentation is not provided with the tenders, or does not meet the required standard, such tenders will be rejected or shall have their price loaded with the estimated costs associated with ENERGEX conducting the assessments. Any documented risk assessment that accompanies the tender must meet the requirements of the Queensland Workplace Health and Safety Risk Management Code of Practice 2007 as a minimum standard and address the five main steps of the risk management process. It is preferred that the risk assessment methodology uses an energy model to identify hazards.

The risk assessment/s must identify hazards to the Corporation's personnel, public and property associated with:

- The installation of the items.
- Transport, handling and storage of the items.
- The operation and maintenance of the items during life expectancy.
- Dismantling/ disposal of items at end of life.
- The range of uses for which the items are intended.
- Effects of environmental conditions on the items.

The 'Risk Assessment' schedule (Attachment 11) included with this specification shall be completed by the Tenderer. Where required by some questions, full details to support answers must be furnished.

- 9.3** The risk assessment must address and describe the means of tie-down restraint to be employed to secure the drums during transport. Where tie-down chains are passed through drum spindle holes, the edges of the holes are to be protected from damage by the use of removable collars that will leave a smooth cylindrical surface to accommodate the spindle.
- 9.4** The risk assessment must address and describe the means of fastening the A and Z ends of the cable to the drum flanges to prevent dislodgement during transportation, unpacking and paying out of cable from the drum.

10. ENVIRONMENTAL CONSIDERATIONS

Suppliers are required to complete Attachment 10 and comment on the environmental soundness of the design and the materials used in the manufacture of the items offered. In particular, comments should address such issues as recyclability and disposability at the end of service life.

11. RELIABILITY

11.1 Suppliers are required to guarantee the reliability and the performance of the items offered for a service life of 60 years under the specified system and environmental conditions by specifying the guaranteed service life in the Attachments of Technical Details.

11.2 Where the specified guaranteed service life is less than 60 years Suppliers are required to provide comment and submit evidence in support of the reliability and performance claimed including detailed information on Failure Mode and Effect Analysis.

12. TRACEABILITY

Suppliers shall determine which sub-components in their plant require traceability and shall indicate these in Attachment 12. The criteria for traceability shall be based on previously identified failure modes which may necessitate the recall of plant from service for rework or replacement should they occur either in the field or are discovered during manufacture or testing at works. ENERGEX will give due recognition to the number of sub-components incorporating traceability when assessing conformance of the Suppliers' Quality Assurance System to the specified requirements.

13. TRAINING

Training material in the form of drawings, instructions and/or audio visuals shall be provided for the items accepted under the offer. The Supplier shall provide an optional price for the provision of training to ENERGEX staff at ENERGEX's Rocklea Hub and ENERGEX's Eagle Farm Distribution Centre. Brief details of the training offered shall be provided in the tender documents. This material shall include but is not limited to the following topics:

- Handling
- Storage
- application (particularly in areas of heavy coastal pollution)
- installation
- maintenance
- environmental performance
- electrical performance
- mechanical performance
- disposal

14. SAMPLES

14.1 When requested, production samples of each item offered shall be submitted, at no cost to ENERGEX, to assist in the evaluation of the offer.

14.2 Each sample shall be delivered freight free, suitably crated and packaged and labelled with the following information:-

Name of Supplier and this Contract No.
Contract Item Numbers

Any supporting data on features or characteristics

14.3 Samples must be delivered within two weeks of the date requested to:-

ENERGEX Limited (Attention Eric Balassinovitch)
TradeCoast Central
120 Schneider Road
Eagle Farm QLD 4009

15. PACKAGING AND MARKING

15.1 Acceptable Packaging

All items shall be suitably packaged or bundled to prevent damage or deterioration during delivery.

Packaging should comply with AS 4068 where pallets are used. Double palleting shall not be used by the supplier.

15.2 Marking of Packages

The following information shall be legibly and indelibly marked or enclosed packaging:

- The Purchaser's name.
- Manufacturer's name and sequential unit identification number.
- Contract number and order number.
- Gross mass.
- Handling or lifting instructions where applicable.
- Description of contents.

16. SERVICE HISTORY

Potential first time Suppliers to the Purchaser shall state:

- the period of service achieved by the items offered within Australian conditions;
- Australian electricity supply authorities who have a service history of the items offered;
- contact names and phone numbers of relevant employees of those authorities who can verify the service performance claimed.

17. WARRANTY

Suppliers shall state the terms and conditions of the warranty offered.

When assessing tenders the purchaser will take into consideration warranty periods that may be offered.

18. INFORMATION TO BE PROVIDED

18.1 The specific technical requirements for the items offered shall be as stated in Attachments 1 to 9 of this specification. The supplier shall provide all details requested by Attachments 1 to 9 and shall guarantee such data. A separate Schedule / Column of a Schedule shall be completed for each item offered.

Technical Specification Conduits and Associated Materials



- 18.2** The supplier shall provide Management Systems information and respond to the referenced items in Attachment 10 of this specification.
- 18.3** The supplier shall complete a Risk Assessment and respond to the referenced items in Attachment 11 of this specification.
- 18.4** The supplier shall provide information on the Traceability of Items and respond to the referenced items in Attachment 12 of this specification.
- 18.5** Attachment 13 details a checklist of supporting technical documentation which is required to be submitted with the tender.

Technical Specification Conduits and Associated Materials



ATTACHMENT 1 - GROUP A: PVC RIGID ELECTRICAL CONDUIT TO AS2053

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP A – PVC RIGID ELECTRICAL CONDUIT TO AS2053	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
Nominal conduit diameter – internal diameter (mm) – external diameter (mm)	
Mechanical classification (LD/MD/HD)	
Type of construction	
Are integral sockets permanently formed at one end?	Yes / No
Does this conduit comply with the requirements of AS 2053.2?	Yes / No
Does the colour of the items offered meet the requirements of this specification?	Yes / No
Have UV stabilisation tests been performed? (Grey conduit, pipes and fittings only)	Yes / No / NA

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 2 - GROUP B: PVC RIGID TELECOM CONDUIT TO AS2053

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP B – PVC RIGID TELECOMMS CONDUIT TO AS2053	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
Nominal conduit diameter – internal diameter (mm) – external diameter (mm)	
Mechanical classification (LD/MD/HD)	
Type of construction	
Are integral sockets permanently formed at one end?	Yes / No
Does this conduit comply with the requirements of AS 2053.2?	Yes / No
Does the colour of the items offered meet the requirements of this specification?	Yes / No

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 3 - GROUP C: PVC FLEXIBLE CONDUIT TO AS2053

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP C – PVC FLEXIBLE CONDUIT TO AS2053	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
Nominal conduit diameter – internal diameter (mm) – external diameter (mm)	
Mechanical classification (LD/MD/HD)	
Type of construction	
Does this conduit comply with the requirements of AS 2053.4 / AS 2053.5?	Yes / No
Does the colour of the items offered meet the requirements of this specification?	Yes / No
Have UV stabilisation tests been performed? (Grey conduit, pipes and fittings only)	Yes / No / NA

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 4 - GROUP D: POLYETHYLENE PIPE TO AS4130

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP D – POLYETHYLENE PIPE TO AS4130	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
Nominal conduit diameter – internal diameter (mm) – external diameter (mm)	
Mechanical classification (PN Class)	
Type of construction	
Does this conduit comply with the requirements of AS 4130?	Yes / No
Does the colour of the items offered meet the requirements of this specification?	Yes / No

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 5 - GROUP E: PVC SPLIT CONDUIT TO AS2053

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP E – PVC SPLIT TELECOMMS CONDUIT TO AS2053	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
Nominal conduit diameter – internal diameter (mm) – external diameter (mm)	
Mechanical classification (LD/MD/HD)	
Does this conduit comply with the requirements of AS 2053.2?	Yes / No
Does the colour of the items offered meet the requirements of this specification?	Yes / No

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 6 - GROUP F: PVC RIGID CONDUIT BENDS TO AS2053

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP F – PVC RIGID CONDUIT BENDS TO AS2053	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
Nominal conduit diameter – internal diameter (mm) – external diameter (mm)	
Nominal Centreline Radius of conduit bends (mm)	
Nominal Angle of conduit bend (degrees)	
Mechanical classification (LD/MD/HD)	
Type of construction	
Are integral sockets permanently formed into ends as specified?	Yes / No
Do conduit bends comply with the requirements of AS 2053.2?	Yes / No
Does the colour of the items offered meet the requirements of this specification?	Yes / No

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 7 - GROUP G: PVC COUPLING / COUPLING ADAPTORS TO AS2053

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP G – PVC COUPLINGS / COUPLING ADAPTORS TO AS2053	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
To suit nominal conduit diameter – internal diameter side 1 (mm) – internal diameter side 2 (mm)	
Mechanical classification (LD/MD/HD)	
Type of construction	
Do conduit couplings / adaptors comply with the requirements of AS 2053.2?	Yes / No
Does the colour of the items offered meet the requirements of this specification?	Yes / No

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 8 - GROUP H: PVC END PLUGS / CAPS TO AS2053

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP H: PVC END PLUGS / CAPS TO AS2053	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
To suit nominal conduit diameter (mm)	
Type of material	
Do conduit plugs / caps comply with the requirements of AS 2053?	Yes / No
Have UV stabilisation tests been performed? (Grey conduit, pipes and fittings only)	Yes / No / NA

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 9 - GROUP I: COVER STRIPS TO AS4702

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO.	
PARTICULARS	RESPONSE
GROUP I: COVER STRIP TO AS 4702	
Name of Manufacturer	
Manufacturer's Catalogue Number	
Place of Manufacture	
Type Test Certificate No.	
Nominal width and length of cover (mm)X.....
Nominal thickness of cover material (mm)	
Does this cover comply with the requirements of AS 4702?	Yes / No
Nominal Height of lettering (mm)	
Does the colour of the lettering on the items offered meet the requirements of this specification?	
Does the colour of the background on the items offered meet the requirements of this specification?	Yes / No

NAME OF TENDERER _____

ATTACHMENT 10 - GROUP J: MARKER TAPE TO AS2648

The Supplier must complete this attachment and guarantee the particulars for each item offered.

ITEM NO. 180	
PARTICULARS	RESPONSE
GROUP J: MARKER TAPE TO AS2648	
Name of Manufacturer	
Manufacturers Catalogue Number.	
Place of Manufacture	
Nominal width and length of marker tape (mm) X
Does this marker tape comply with the requirements of this specification?	Yes/No
Does this marker tape comply with the requirements of AS 2648.1?	Yes/No
Does the colour of the items offered meet the requirements of this specification?	Yes/No

NAME OF TENDERER _____

ATTACHMENT 11 – MANAGEMENT SYSTEMS INFORMATION

SUPPLIER DETAILS

Supplier:-	Representative's Name:-
Address:-	Telephone:- Facsimile:- Mobile / Other:-
Product / Service:-	ABN:-

1) Quality Assurance

Do you have a fully implemented Quality Management System in place which has been certified by an external certification body? (3 rd Party Industry Specific Certification)	YES / NO
If YES, advise name of certification body and Certificate number. Attach copy of the certificate and Standard number.	Certified by: Certificate Number:
Copy of Certificate and Schedule(s) attached?	YES / NO
Do you hold a current ENERGEX / Ergon Energy, or other Electricity Authority and/or the Queensland Government Contractor Rating? (2 nd Party)	YES / NO
If YES, advise Electricity Authority, Certificate Number and rating.	Elec. Authority: Number: Rating:

If you answered “**YES**” to having 3rd Party Industry Specific Quality Certification and

- this is **not** “by association” with another entity please complete **Parts 5 and 6**.
- this **is** “by association” with another entity please complete **Part 3**.

If you answered “**NO**” to having 3rd Party Industry Specific Quality Accreditation, please complete **Part 4**.

ATTACHMENT 11 – MANAGEMENT SYSTEMS INFORMATION (CONTINUED)

2) Quality Assurance Certification by Association

If you have answered “**YES**” to having Quality Assurance Certification, and have used another entity in providing this answer please provide details of this entity below.

REGISTERED COMPANY NAME:	
ADDRESS:	
ABN:	

Please complete **Parts 5 and 6**.

3) Internal Quality System Questions

Have you developed and implemented your own internal non-certified Quality Management System?	YES/NO
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If you answered “**NO**” to the above question please complete **Part 5**.

If you answered “**YES**” to the above question please complete the remaining questions in **Part 4**.

Do you have a Quality Manual?	YES/NO						
Do you have procedures in place to ensure Quality of product and / or service?	YES/NO						
Do you have a sample Quality Inspection and Test Plan or similar that you could provide on request?	YES/NO						
Do you have an Internal Audit System?	YES/NO						
Do you produce Internal Audit Reports that have suitable corrective action mechanisms?	YES/NO						
Do you require your Suppliers / contractors to have a documented Quality Management System in place?	YES/NO						
How do you evaluate your Supplier's / contractors quality performance?	<table border="0"> <tr> <td>Audit</td> <td>Yes/No</td> </tr> <tr> <td>Inspections</td> <td>Yes/No</td> </tr> <tr> <td>Performance History</td> <td>Yes/No</td> </tr> </table>	Audit	Yes/No	Inspections	Yes/No	Performance History	Yes/No
Audit	Yes/No						
Inspections	Yes/No						
Performance History	Yes/No						
If requested, would your company be able to provide a copy of its Internal Quality Management System to the Purchaser?	YES/NO						

ATTACHMENT 11 – MANAGEMENT SYSTEMS INFORMATION (CONTINUED)

4) Environmental

Do you have a fully implemented Environmental Management System in place which has been certified by an external certification body? If YES attach a copy of the certificate.	YES/NO
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If YES go to **Part 6**.

Do you have an Environmental Management Policy that is available to the Purchaser within 7 days of request?	YES/NO
Do you have a formal Environmental Management Plan that is available to the Purchaser within 7 days of request that outlines how you will address environmental risks relevant to your activities and conditions?	YES/NO
Are the requirements of your Environmental Management Plan incorporated into your Work Procedures?	YES/NO
Do you have a fully implemented Environmental Management System in place in accordance with ISO14001 which has been certified by an external certification body?	YES / NO
If YES, advise name of certification body and Certificate number. Attach copy of the certificate and Standard number.	Certified by: Certificate Number:
Copy of Certificate and Schedule(s) attached	YES / NO

5) Workplace Health and Safety

Do you have a formal Workplace Health and Safety Management Plan that is available to the Purchaser within 7 days of request that outlines how you will address safety risks relevant to your activities and conditions?	YES/NO
Are the requirements of your Workplace Health and Safety Management Plan incorporated into your Work Procedures?	YES/NO
Do you have a Workplace Health and Safety Policy that is available to the Purchaser within 7 days of request?	YES/NO

NAME OF SUPPLIER	
SIGNATURE (FOR AND ON BEHALF OF SUPPLIER)	
DATE	

ATTACHMENT 12 – RISK ASSESSMENT

Ref.	Particulars	Response
1.	<p>Does the Equipment offered comply with the Queensland Workplace Health and Safety Plant Code of Practice 2005? (http://www.deir.qld.gov.au/workplace/resources/pdfs/plant-cop-2005.pdf)</p> <p>If so, have the following obligations been fulfilled for Manufacturers and/or Suppliers of Plant to ensure (according to the definitions under the Workplace Health and Safety Act 1995 s. 32B):</p> <p>that the Equipment offered has been examined and tested to ensure it is safe and without risk to health when used properly?</p> <p>the Equipment offered is accompanied by information about the way the equipment must be used to ensure health and safety?</p> <p>In particular, information relating to the points outlined in Paragraph 3, Clause 3.6 of the Queensland Workplace Health and Safety Plant Code of Practice 2005?</p> <p>If so, please provide provision of appropriate information.</p>	
2.	<p>Does the Equipment offered comply with the Queensland Electrical Safety Act 2002? (http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/E/ElectricalSA02.pdf)</p>	
3.	<p>Has a Risk Assessment been performed on the Equipment offered, which meets the requirements of the Queensland Workplace Health and Safety – ‘How to manage Work Health And Safety Risks - Code of Practice 2011’? (http://www.deir.qld.gov.au/workplace/resources/pdfs/manage-whs-risks-cop-2011.pdf)</p> <p>If so, please include a copy of the risk assessment with the tender.</p>	
4.	<p>Do any of the items offered involve assembly of components from a variety of sources?</p> <p>If so, are the components compatible to ensure the item is safe and without risk to health and safety when used properly?</p>	
5.	<p>Has the Equipment been examined and tested to ensure it is safe when used properly?</p> <p>In particular, have all Test Certificates specified in this Technical Specification been supplied?</p> <p>Is information available for safe operation and maintenance of the Equipment?</p>	

Name & Signature of Supplier / Date: _____

Address: _____

Name & Signature of Witness / Date: _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 13 – TRACIBILITY OF ITEMS

The following information shall be supplied by the Supplier whose attention is drawn to the relevant Clauses of the Specification. The list below is provided as a guide and is not considered exhaustive. As such, Suppliers should add whatever additional components are traceable.

Traceability			
1.	Sub-components incorporating traceability – for all Tendered main, optional and alternative items - please list:	Traceable Yes / No (Circle)	(Component Manufacturer and Other Comments)
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	
		Yes / No	

NAME OF TENDERER _____

Technical Specification Conduits and Associated Materials



ATTACHMENT 14 – TECHNICAL DOCUMENTATION CHECKLIST

CLAUSE REF.	PARTICULARS	UNITS
	Have full and comprehensive details been submitted WITH the tender documents associated with each of the following items?	
5.1	Type Test certificates specified in AS 2053.	Yes / No
5.1	Is evidence of compliance to AS 4130 attached?	Yes / No
5.1	Type Test certificates specified in AS 4702.	Yes / No
7.0	Quality systems of both Supplier and Manufacturer including Capability Statement .	Yes / No
8.0	Risk Assessment	
9.0	Environmental Considerations	Yes / No
10.0	Reliability	Yes / No
11.0	Traceability	Yes / No
12.0	Training Materials	Yes / No
15.0	Service History	Yes / No
16.0	Warranty	Yes / No

NAME OF TENDERER _____