



Ergon Energy Corporation Limited

Technical Specification for Galvanised Fabricated Steelwork

ETS 01-03-01

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1. Purpose and Scope

This technical specification sets out the requirements for the manufacture, testing at works, supply and delivery of galvanized fabricated steelwork for use on overhead electricity distribution systems in a totally exposed environment.

2. References

2.1 Applicable Standards

All items shall be designed, manufactured and tested with the relevant parts of the following Standards and all amendments issued from time to time except where varied by this specification.

STANDARD	TITLE
AS 1111	ISO metric hexagon commercial bolts and screws
AS 1112	ISO metric hexagon nuts, including thin nuts, slotted nuts and castle nuts
AS 1154	Insulator and conductor fittings for overhead power lines
AS 1214	Hot-dip galvanized coatings on threaded fasteners
AS 1237	Flat metal washers for general engineering purposes
AS 1275	Metric screw threads for fasteners
AS 1442	Carbon steels and carbon-manganese steels - Hot-rolled bars and semifinished products
AS/NZS 1554	Structural steel welding
AS/NZS 1594	Hot-rolled steel flat products
AS/NZS 3678	Structural steel - Hot-rolled plates, floorplates and slabs
AS/NZS 3679	Structural steel - Hot rolled bars and sections
AS 3766	Mechanical fittings for low voltage aerial bundled cables
AS 4068	Flat pallets for materials handling
AS 4680	Hot-dipped galvanised (zinc)coatings on fabricated ferrous articles
AS/NZS 9001	Quality management systems - Requirements

3. Drawings

3.1 Drawings by the Purchaser

There are no drawings attached to this specification.

4. Service Conditions

The items will be exposed to the following environmental conditions:

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Temperatures	45°C summer day time -5°C winter night time
Solar Radiation Level	1 000 Wm ² with high ultraviolet content
Precipitation	Tropical summer storms with gust winds above 160 km/h, and an annual rainfall in excess of 1 500 mm
Humidity	Extended periods of relative humidity in excess of 90%.
Pollution	Areas of coastal salt spray and/or industrial pollution with equivalent salt deposit densities in the range 2.0 to 3.0 gm ⁻²

5. Design and Construction

5.1 Identification Reference

Prior to galvanizing, all fittings where applicable, shall be permanently marked with the appropriate identification reference together with the manufacturer's name or trade mark. These shall be applied in such a way as to remain legible after galvanizing.

5.2 Corrosion Protection

All ferrous items with the exception of stainless steel, shall be hot dipped galvanized in accordance with AS 4680 and/or AS 1214 as applicable after fabrication. The minimum coating thickness shall be 84 µm.

5.3 Ratings

All steelwork shall be manufactured to meet the design requirements stated on the applicable QESI and ERGON drawings.

5.4 Bolts (Screws) Nuts and Washers

All bolts and nuts shall be threaded in accordance with AS 1111 and AS 1112 respectively. The resulting thread form shall have tolerance class of 6H/8g. Internal threads shall be cut and oiled after galvanizing.

5.5 Holes

All holes shall be drilled accurately to the required tolerances as specified on the applicable drawings.

5.6 Welding

Welding shall be in accordance with AS 1554, Parts 1 and 2 or as otherwise indicated on the relevant QESI and ERGON drawing.

5.7 Assembly

Where specified, parts shall be assembled before delivery.

5.8 Dimensions and Tolerances

All dimensions and tolerances shall be in accordance with the applicable QESI and ERGON drawing or relevant Australian Standard if not stated thereon.

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6. Performance and Testing

6.1 Certificates of Compliance

Certificates of Compliance are to be provided with each delivery to verify that the materials used comply with the specified grade requirements detailed on the relevant drawings.

7. Risk Assessment

There is no requirement for manufacturer provided safety risk assessments for the items covered in this specification.

8. Quality Assurance

8.1 Purchasers Policy

It is the Purchaser's policy to procure goods, equipment and services from sources that demonstrate the ability to supply quality products.

The tenderers attention is drawn to the relevant Quality Assurance Annexure that forms an integral part of this specification.

8.2 Documentary Evidence

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.

8.3 Quality Certification Program

Tenderers shall provide details of their program to upgrade their Quality Certification to meet the requirements of ISO 9001.

9. Samples

9.1 Production Samples

When requested, Tenderers shall submit a minimum of six (6) production samples of each item offered as part of the tender package.

10. Packaging and Marking

10.1 Safe Handling of Products

The successful tenderer(s) shall take all necessary precautions to ensure safe handling of all products supplied. In particular:

- a) Individual pack sizes shall not weigh more than 20kg.
- b) Palletised goods shall be supplied on standard wooden pallets although specially designed pallets will be acceptable where additional stability is required.
- c) Palletised goods are to be secured and stabilised with no overhang to facilitate unloading
- d) Goods requiring indoor storage shall not exceed 1100mm in height.

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10.2 Packages Lots

Each packaged lot shall be marked with the following information:

Manufacturers Name
Order Release Authority/Order Number
Contract No.
Ergon Stock Code
Item Description
Pack Size
Pack Weight

11. Service Performance

Tenderers shall state:

(a)	the period of service achieved by the items offered within Australian service conditions;
(b)	Australian electricity supply authorities who have a service history of the items proposed for use by the Purchaser.
(c)	Contact names and phone numbers of relevant employees of those supply authorities who can verify the service performance claimed.

12. Reliability

12.1 Service Life

Tenderers are required to comment on the reliability of the equipment and the performance of the materials offered for a service life of 25 years under the specified system and environmental conditions.

13. Training

There is no requirement for training associated with this specification.

14. Environmental Considerations

Suppliers are required to 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.

15. Information to be Provided

15.1 Specific Technical Requirements

The specific technical requirements for the items shall be as stated in **Attachment 1** of this specification. The tenderer shall fill in all data requested by **Attachment 1** and shall guarantee such data.

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15.2 Checklist of Supporting Documentation

Attachment 2 details a checklist of supporting technical documentation which is required to be submitted with the tender.

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16. Attachment 1 – Technical Details

NOTE: A separate schedule is to be provided for each item offered except where information common to all items which only needs to be provided once.

PARTICULARS	UNITS	ITEM No.
Manufacturer's Name and Address		
Place of Manufacture		
Manufacturer's Product Catalogue Number		
Grade of Material		
Galvanising Details:		
Method		
Applicable Australian Standard		
Minimum Coating Thickness	µm	
Details of Oil used on Threads		
Pack Size		
Pack Weight	kg	

SIGNATURE OF TENDERER: _____

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17. Attachment 2 – Technical Document Checklist

CLAUSE Ref.	PARTICULARS	UNITS
Have full and comprehensive details been submitted WITH the tender documents associated with each of the following items?		
8.2	Quality systems of BOTH the TENDERER and the MANUFACTURER	Yes/No
8.3	Tenderer's/Manufacturer's program to upgrade QA systems to ISO 9001	Yes/No
9.1	Production Samples	
11	Service Performance	Yes/No
12	Reliability	Yes/No
p	Training Materials (availability)	Yes/No
14	Environmental Considerations (availability)	Yes/No

NAME OF TENDERER:

ADDRESS OF TENDERER: _____

SIGNATURE: _____ FOR AND ON BEHALF OF TENDERER

DATE: _____