



Ergon Energy Corporation Limited

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols

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Contents

1. Purpose and Scope	4
2. References	4
2.1 Applicable Standards	4
3. Drawings	4
3.1 Drawings by the Purchaser	4
3.2 Drawings by the Tenderer	4
4. Service Conditions	4
5. Design and Construction	5
5.1 Castings	5
5.2 Workmanship	5
5.3 Identification Reference	5
5.4 Mechanical Ratings	5
5.5 Pole Caps	5
5.6 Pressed Letters and Numerals	5
6. Performance and Testing	6
6.1 Batch Tests - Aluminium Castings	6
7. Risk Assessment	6
8. Quality Assurance	6
8.1 Purchasers Policy	6
8.2 Documentary Evidence	6
8.3 Quality Certification Program	6
9. Samples	6
9.1 Production Samples	6
10. Packaging and Marking	6
10.1 Packaged Lots	6
11. Service Performance	7
12. Reliability	7
12.1 Service Life	7
13. Training	7



Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols

14. Environmental Considerations	7
15. Information to be Provided	7
15.1 Specific Technical Requirements.....	7
15.2 Checklist of Supporting Documentation	7
16. Appendix A.1 - Drawings.....	8
17. Attachment 1 – Technical Details	9
18. Attachment 2 – Technical Document Checklist	10

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols

1. Purpose and Scope

This technical specification sets out the requirements for the manufacture, testing at works, supply and delivery of aluminium castings, pole caps and pressed letters and numerals 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 1154	Insulator and conductor fittings for overhead power lines
AS 1734	Aluminium and aluminium alloys - Flat sheet, coiled sheet and plate
AS 1874	Aluminium and aluminium alloys - Ingots and castings
AS/NZS ISO 9001	Quality management systems - Requirements

3. Drawings

3.1 Drawings by the Purchaser

The drawings listed in **Appendix A.1** shall be read in conjunction with, and shall form part of this technical specification.

3.2 Drawings by the Tenderer

The Tenderer shall supply with the tender, detailed drawings or pamphlets of the items tendered.

4. Service Conditions

The items will be exposed to the following environmental conditions:

Temperatures	45°C summer day time -5°C winter night time
Solar Radiation Level	1 000 W/m 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 g/m ²

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols

5. Design and Construction

5.1 Castings

Castings shall be manufactured from aluminium material grade BB 401 (or equivalent) to AS 1874.

Full details of the type of aluminium to be used shall be submitted in the tender.

5.2 Workmanship

Castings shall be clean, free from harmful inclusions, blow holes and all other defects and all fins shall be removed. The dimensions shall be in accordance with the dimensions shown on the appropriate QESI/ERGON drawings or AS 1154.

All holes to accommodate bolts on pins in castings, shall be accurately drilled or cored parallel sided, and in the same straight line.

5.3 Identification Reference

Where specified, all castings shall be permanently marked with the appropriate identification reference and with the manufacturer's name or trademark.

5.4 Mechanical Ratings

Castings shall have mechanical ratings as specified on the appropriate QESI/ERGON drawing.

5.5 Pole Caps

Pole caps shall be cut from aluminium plate with alloy designation 1200 (or equivalent) to AS 1734. The temper shall be 0.

Full details of the grade of aluminium plate to be used, shall be submitted in the tender.

Mill finish only is required on pole caps.

5.6 Pressed Letters and Numerals

Letters and numerals shall be pressed from aluminium plate with alloy designation 1200 (or equivalent) to AS 1734. The temper shall be 0.

Full details of the grade of aluminium plate to be used, shall be submitted in the tender.

The aluminium sheet shall be of thickness $0.5 \text{ mm} \pm 0.05 \text{ mm}$ and the letters/numerals shall be of height $50 \text{ mm} \pm 2 \text{ mm}$. The letters/numerals shall be supplied with 2 off 4 mm holes for mounting on to timber using screws or clouts.

The edges of the finished letters/numerals shall be smooth and free from any sharp projections.

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols

6. Performance and Testing

6.1 Batch Tests - Aluminium Castings

A "Certificate of Compliance" is to be supplied with each order delivery. Batch Test certificates for mechanical properties, dimensions and galvanising of each item shall be held by the manufacturer and provided to the Purchaser within 24 business hours upon request. These tests are to be in accordance with the relevant Australian Standards.

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.

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 tendered as part of the tender package.

10. Packaging and Marking

10.1 Packaged Lots

All items are to be supplied in packaged lots in accordance with the relevant QESI/ERGON drawing. Each packaged lot shall be marked with the following information:

Manufacturers Name
Purchase Order Number
Contract No.
Stock Code & Item Description
Pack Size
Pack Weight

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols

11. Service Performance

Tenderers shall state:

- (a) the period of service achieved by the items tendered within Australian service conditions;
- (b) Australian electricity supply authorities that have a service history of the items tendered; AND
- (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 tendered for a service life of 35 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 tendered. In particular, comments should address such issues as recycling and disposal 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.

15.2 Checklist of Supporting Documentation

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

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols



16. Appendix A.1 - Drawings

REFERENCE	REVISION	TITLE
01-10-01	B	Gainblock, 100 mm
01-10-02	B	Gainblock, 125 mm
01-10-03	B	Gainblock, 150 mm
01-14-03	B	Clevis Thimble, Aluminium
01-16-01	B	Pole Caps

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols

17. Attachment 1 – Technical Details

NOTE: A separate schedule is to be provided for each item tendered 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		
Are Batch Test Certificates able to be supplied?	Yes/No	
Applicable Australian Standard		
Minimum failing load	kN	
Grade of Aluminium		
Temper		
Thickness of plate	mm	
Pack Size		
Pack Weight	kg	

SIGNATURE OF TENDERER: _____

Technical Specification for Aluminium Castings, Pole Caps and Pressed Symbols



18. Attachment 2 – Technical Document Checklist

Clause Ref.	Particulars	Tenderer's Response
Have full and comprehensive details been submitted WITH the tender documents associated with each of the following items?		
5.1	Property class of aluminium castings	Yes/No
5.5	Property class of aluminium pole caps	Yes/No
5.6	Property class of pressed aluminium letter/numerals	Yes/No
8.2	Quality systems of BOTH the TENDERER and the MANUFACTURER	Yes/No
8.3	Quality program	Yes/No
11.	Service Performance	Yes/No
12.	Reliability	Yes/No
13	Training Materials (availability)	Yes/No
14	Environmental Considerations (availability)	Yes/No
15	Attachments 1 and 2	Yes/No

NAME OF TENDERER:

ADDRESS OF TENDERER: _____

SIGNATURE: _____ FOR AND ON BEHALF OF TENDERER

DATE: _____