

ITI LIMITED

A Govt. Of India Undertaking

Dooravaninagar Bangalore

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 Due Date
 04-12-2021 15:00
 ENQUIRY FOR PR
 M2121G003
 Date
 07-07-2021 09:03

Re-tendring Reference 1 Re-tendring Date 20-11-2021

Respected Sir Kindly quote your best prices and deliveries for the below mentioned components.

Sino	Item and Description	Quantity	Unit
	DTC 660249/7 HEAT SINK	70.0000	Number of Units
	(

NOTE:

- 1. OFFER THROUGH EMAIL WILL NOT BE CONSIDERED.
- 2. TERMS AND CONDITIONS AS PER ENCLOSURE.
- 3. OUR PAYMENT IS 60 DAYS CREDIT.
- 4. YOUR QUOTED PRICE SHALL BE ALL INCLUSIVE FOR ITI LTD.BANGALORE

Special Note: * KINDLY PROVIDE UDYAM REGISTRATION CERTIFICATE IF MSME REGISTERED ENTERPRISE

- * KINDLY MENTION SUBJECT AS "QUOTATION FOR HEAT SINK"; RFQ # AS "M2121G003" & DUE DATE AS "22.07.2021" OVER ENVELOPE WITHOUT WHICH QUOTATION WILL NOT BE CONSIDERED FOR TENDERING
- * KINDLY ACKNOWLEDGE THE RECEIPT OF ENQUIRY BY RETURN MAIL
- * KINDLY CONFIRM WHETHER QUOTATION SUBMITTED BY PERSONAL DEPOSIT OR THROUGH ANY COURIER SERVICES (PROVIDE DOCKET REFERENCE)
- $^{\star}\,\mathsf{KINDLY}\,\mathsf{PROVIDE}\,\mathsf{DATASHEET}\,\mathsf{/}\,\mathsf{TECHNICAL}\,\mathsf{COMPLIANCE}\,\mathsf{/}\,\mathsf{SPECIFICATION}\,\mathsf{DOCUMENT}\,\mathsf{ALONG}\,\mathsf{WITH}\,\mathsf{QUOTATION}$
- * KINDLY SUBMIT SAMPLES ALONG WITH QUOTATION IF POSSIBLE
- * KINDLY SUBMIT QUOTATION AS PER ITI DRAWING ATTACHED
- * SINCE SUPPLIER UNABLE TO SUPPLY, THIS CASE RE-TENDERED

Deputy General Manager

Yours Faithfully,

Central Purchase,

For I.T.I Limited

ITI Limited,Dooravaninagar

Bangalore-560016

Deputy General Manager - IMM

Thanking You.



ANODIZING ON ALUMINIUM AND ALUMINIUM ALLOYS

SPEC.No.B 639

ISSUE No.6

12 OCT 2001

STANDARD

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1 SCOPE

This specification covers the process of anodizing on aluminium & aluminium rich alloy parts

1.1 Purpose

The anodizing of aluminium and aluminium rich alloys is primarily for protection against corrosion and to promote adhesion of organic protective coatings. It is not suitable for composite parts embodying other materials unless the latter are adequately "Stopped Off".

2 PROCESS

2.1 Degreasing

The parts shall be degreased as per specification B501G.

2.2 Cleaning

The parts shall be cleaned before treatment in the following sequence:

- a) Alkaline cleaning to specification B 501A Cl 2.2.
- b) Bright acid dipping as per specification B501A Cl 2.3.
- c) Emerying using suitable grade emery.
- d) Alkaline cleaning to specification B 501A Cl 2.2.
- e) Bright acid cleaning as per specification B501A Cl 2.3.

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2.3 Polishing

The parts shall be polished lightly as per specification B514C (less lacquering) if required to bring up lustre.

2.4 Cleaning

Immediately before anodic treatment, all parts shall be given a final washing in clean running water at room temperature.

2.5 Immersion of Parts for Treatment

The parts being treated shall be made the anode and, whenever practicable & shall be totally immersed in the electrolyte. Where total immersion is not practicable the portion to be treated subsequently shall overlap the portion treated previously.

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ANODIZING ON ALUMINIUM AND ALUMINIUM ALLOYS

SPEC.No. B 639

ISSUE No.6

12 OCT 2001

- 2.5.1 Where multiple treatment necessitates contact shall be made at treated surface & the film shall be removed at the points of contact if these points are to be retreated. If the points of contact remain outside the electrolyte the film shall be pierced by metallic spring clips with sharp points of sufficient size number to carry the required current.
- 2.5.2 Perforated receptacles can be used for the treatment of small parts. Parts with flat faces such as washers cannot be treated effectively in this manner unless mixed with other parts which prevent the major faces resting on each other. The receptacles shall be such as to allow free access of the electrolyte to all parts to prevent local overheating.
- 2.5.3 All leads from the anode rails to the part being treated, if in contact with the electrolyte shall be of aluminium, or suitable alloy or titanium and capable of carrying the neces sary current without overheating.
- Note: Atleast two leads shall be used from the anode rail to each part under treatment or to each receptacle containing small parts and the aluminium content of the leads shall not be less than that of the part being treated.
- 2.5.4. Care shall be taken that the parts under treatment do not come into contact with the tank, the stirrer, the heating and the cooling pipes or the plates, as this may cause break down of the film and damage.
- 2.5.5 Oxygen is evolved at the surface of the anode during the treatment. Where trapping of air or oxygen cannot be avoided multiple treatment shall be employed.

Note:

a) Electrolyte and operating conditions

The electrolyte shall consist of a solution of Sulphuric Acid to specification IS: 266:1993 with a concentration of 80 to 200 grams per litre. The current density shall be between 1.0 to 3 Amps / dm 2 at 10 to 25 volts, D.C. and the operating temperature shall be 20 to 25° C.

The water used shall be free from chloride for preparing the electrolyte. However, chloride in the electrolyte shall not exceed the equivalent of 0.2 gram per litre of Sodium Chloride. The dissolved aluminium shall not exceed 40 grams per litre for the Sulphuric Acid concern tration given above.

The electrolyte shall be agitated by suitable mechanical means or by air, free from dust and oil to maintain a uniform temperature throughout. The electrolyte shall be kept clean and free from suspended matter by decantation.

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ANODIZING ON ALUMINIUM AND ALUMINIUM ALLOYS

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b) Cathode

The cathode shall consist of:

i) The tank itself. When rivetted tanks are used, contact shall be effected at several points. Lead sheets as per specifications IS: 405 (Part 1): 1992 may be used as tank lining. They shall be secured to the cathode rails in such a manner as to prevent their movement due to agitation of the electrolyte.

2.6 Rinsing and Drying

> Immediately after the treatment, the parts shall be rinsed in clean running water at room temperature, followed by washing in hot water at 50 to 60° C (except parts treated as an aid to inspection) and dried in a dust-free atmosphere.

2.7 Dyeing

> Dying shall normally be done by immersing the parts in the relevant dye immediately after rinsing but without allowing the parts to dry. Any suitable inorganic or proprietary organic dyes may be used for dyeing the anodic film. The dyed parts shall be dried using blow air.

2.8 Sealing

> The anodized parts (undyed parts) shall be sealed by immersion in one of the following solution for periods and temperature indicated against each: DOCUMENTATION

2.8.1 Demineralised water or distilled water

Temperature: 94 to 98°C

Duration : 20 to 60 minutes

pH

: 6 to 6.5

2.8.2 Potassium dichromate or sodium dichromate 40 to 60 grams / litre in demineralised or distilled water (one litre)

Temperature

94 to 98°C

Duration

5 to 10 minutes

pH

5.5 to 6.5

The pH value of the solution shall be maintained by the addition of boric acid or acetic acid.

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ANODIZING ON ALUMINIUM AND ALUMINIUM ALLOYS

SPEC.No. B 639

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Rinsing and Drying 2.9

> After sealing, the parts shall be rinsed thoroughly in clean running water at room tempera ture (except in case of sealing by deminaralised or distilled water) and then dried in a dustfree atmosphere.

Stripping of Anodic Coatings 2.10

Stripping solution shall be of any one of the following composition in distilled water:

a) Phosphoric acid (S.G. 1.75)

3.5 % V/V

Chromic acid (A.R.Quality)

2.0 % W/V

Note: This solution shall be used at boiling point.

b) Sulphuric acid

10% V/V

Potassium Fluoride 4 % W / V

Note: This solution shall be used at room temperature at aqueous condition.

c) Sulphuric acid

10% V/V

Commercial hydrofluoric acid (50/60% HF) 1% V / V

Note: This solution shall be used at room temperature at aqueous condition.

QUALITY OF FINISH 3

The films obtained shall, immediately after rinsing and drying, but before any sealing, be such that when dyed with Methyl Violet Blue, or any other suitable dye with vigor ous rubbing with a damp cloth shall not produce any appreciable loss of colour. The dye shall be applied either by using violet endorsing ink on a rubber pad or by a copying pencil rubbed over the moistened anodised surface.

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AND ALUMINIUM ALLOYS

SPEC.No. B 639

ISSUE No.6

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4 Method for the Measurement of average thickness of anodic coatings

4.1 Test piece

The test piece shall, if possible, possess a total surface of not less than 32 sq. cm and shall be of such shape that the surface area of the coating is readily determinable.

4.2 Method

Weigh the clean and dry anodized test piece in gram to the nearest mg. and immerse in the stripping solution as given in clause 2.10 until constant weight is attained, which usually takes not more than 10 minutes. Wash the test-piece in hot, distilled water, dry and re-weigh.

The loss of weight shall be taken as the weight of the anodic coating.

4.3 Calculation

The average thickness shall be given by : $T = \underline{W}$ ad

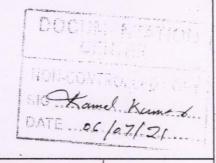
where T = Thickness of coating in cm,

w = weight of coating in gram,

a = Surface area of the cathode coating in sq. cm.

d = Density of coating in g/ml. (taken as 2.5).

Note: This method is not suitable for coatings sealed with organic materials which cannot be removed without damage to the film. In such cases a separately prepared test piece shall be taken.



PREPARED	Mr. v. mbraness	CEQ (NV)
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Ref: B 639 ISS No:5 Dated:15-12-1994+A1 and Review.

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ALUMINIUM ALLOY SECTION MEDIUM STRENGTH

SPEC. No. D 2009 ISSUE No. 3 DATE:25-01-2007

1. SCOPE

This specification covers the requirements of Aluminium Alloy Sections suitable for structural work which require medium mechanical strength.

2. REFERENCE

1. IS 733 - 1983

Specification for wrought aluminium & aluminium alloy bars, rods & sections.

2. IS 1608 -1995

Mechanical testing of metals - Tensile testing.

2.1 EQUIVALENTS.

This specification is in line with IS designation 63400. WP condition of IS 733-1983.

GENERAL CHARACTERISTICS

The material shall be uniform in composition & temper, sound, homogeneous & free from physical defects or flaw both externally. & internally. The extruded sections shall be uniform in crosss-section, straight & true & free from twists, seams or damaged ends. The surface shall be bright & free from extrusions marks, pittings, blisters & strains.

4. REQUIREMENTS

4.1 CHEMICAL COMPOSITION (IS 733-1983 Designation 63400)

FLEMENT	PERCENTAGE	
ELEMENT	Min.	Max.
Copper		0.1
Magnesium	0.4	0.9
Silicon	0.3	0.7
Iron	To a control to	0.6
Manganese .	1	0.3
Zinc		0.2
Titanium	in in in its	08.50
Chromium		000
Aluminium	Remainde	15.81
	W. W.	5/0/



ALUMINIUM ALLOY SECTION MEDIUM STRENGTH

SPEC. No. D 2009 ISSUE No. 3 DATE:25-01-2007

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4.2 PHYSICAL CONDITION

The material shall be supplied in solution -heat treated & subsequently precipitation treated (WP) condition.

4.3 MECHANICAL PROPERTIES

Size(mm)	Tensile Strength kg/mm ²	Elongation%Min on 50 m GL/ 5.65√so	Test Method
Upto & incl.150	18.5	7	IS 1608 -1995
Above 150 upto & Incl. 200	15	6	

5 DIMENSION & DIMENSIONAL TOLERANCES

The dimensions of the material shall be as specified in the purchase order or relevant drawing. Unless otherwise specified in the purchase order or relevant drawing, the applicable general dimensional tolerances shall be ± 0.15 mm.

5.1 TOLERANCE FOR STRAIGHTNESS & TWIST

All sections shall be supplied in a straightened condition & reasonably free from twist. The tolerance for straightness & twist shall be as follows:

Diameter of circumscribing circle (mm)	Deviation from straightness / twist(mm/m of length) max.,		
The state of the s			C. Casta
Upto & incl. 25.0	2.1		
Above 25.0	1.7		
		1	

5.2 ANGULAR TOLERANCE

The tolerances on angles of sections measured at the extremities of the section shall be as follows:

Thickness Above	of thinnest leg (mm) upto	Deviation from angle specified Plus / Minus	
	5.0	2 ^u	
5.0	19.0	1.50	
19.0		1"	

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ALUMINIUM ALLOY SECTION MEDIUM STRENGTH

SPEC. No. D 2009 ISSUE No. 3 DATE:25-01-2007

5.3 TOLERANCE ON LENGTH:

For all sizes of sections the length tolerance shall be + 25 '-0 mm.

6 DESIGNATION

Each size of material shall be designated as per 15 digit code STDS-DRX, Example: 0.5X25X1000 mm strip shall be designated as: DR S2 D2009 E5 D2 A1.

7 PACKING AND MARKING

7.1 PACKING

The material shall be suitably packed so as to avoid any damage during transit, handling & storage.

7.2 MARKING

Each bundle / case containing the materials shall be marked with the following details.

- 1. Ordering code
- Purchase order No.
- 3. Net & gross weight.
- Manufacturers name & trade mark.
- Any other relevant information.

8 TYPE APPROVAL

8.1 SAMPLE FOR TYPE APPROVAL

The supplier shall submit free samples for type approval purpose. The size and quantity of the material shall be as per ITI specification D 3800. The requirements as called for in clause 3 & 4 shall be checked for type approval.

8.2 TYPE APPROVAL TESTS

The requirements as called for in clause 3 to 5 shall be checked for type approv

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ALUMINIUM ALLOY SECTION MEDIUM STRENGTH

SPEC. No. D 2009 ISSUE No. 3 DATE:25-01-2007

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9 BATCH ACCEPTANCE

9.1 SAMPLING PLAN FOR BATCH ACCEPTANCE

The sampling plan for batch acceptance as given in quality system documents pertaining to the unit shall be followed for batch acceptance.

9.2 BATCH ACCEPTANCE TESTS

The requirement as given in clause 3 to 7 shall be checked for batch acceptance.

10 REJECTION OF SUPPLIES

M/s.ITI LIMITED., have the right to reject any material which does not conform to this specification and to return any material which subsequently proves faulty in manufacture.

11 DEPARTURE FROM SPECIFICATION

Any departure from this specification must be agreed to in writing by the company before prior to the execution of the order.

12 ACCEPTANCE

The acceptance of this specification without any comment shall be taken to indicate that the supplier agrees to comply with the condition herein contained.

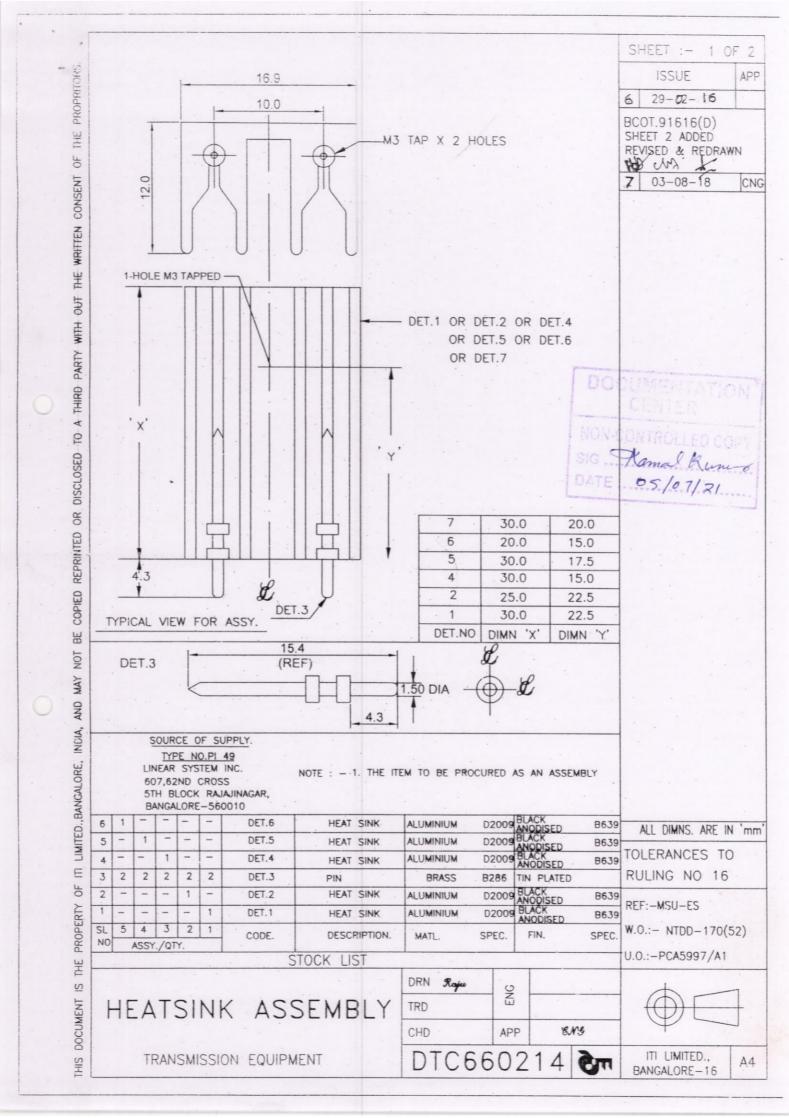
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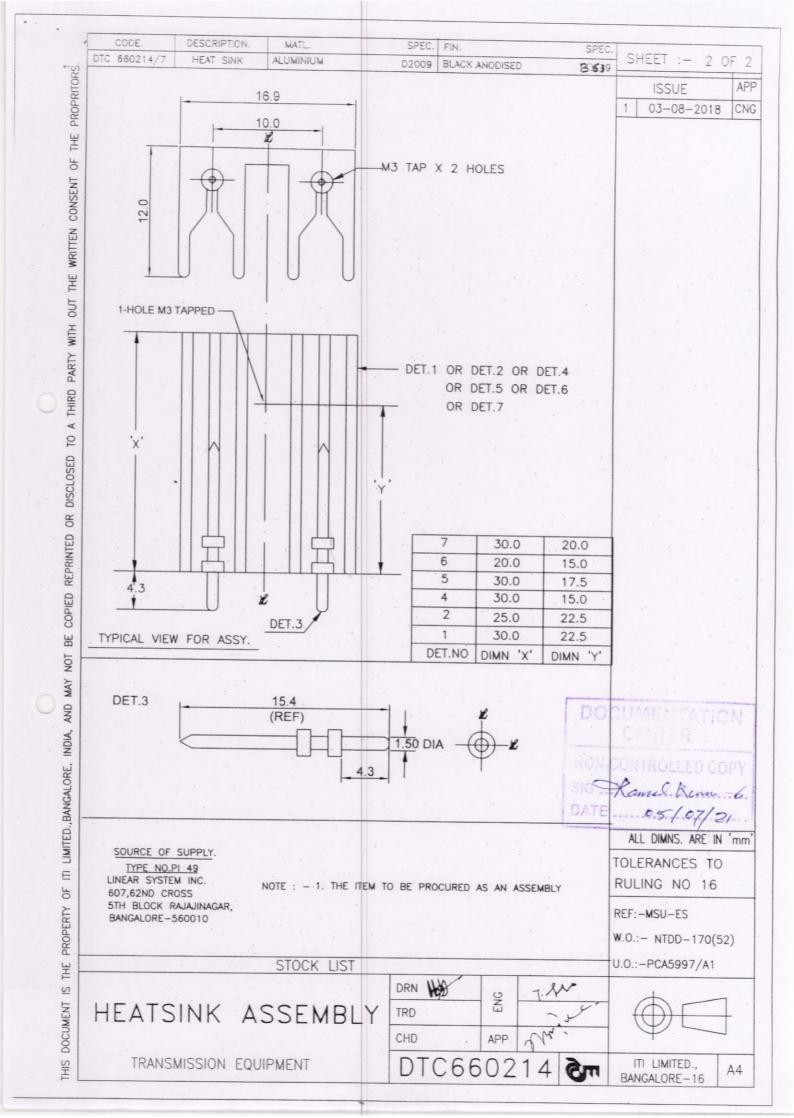
Reviewed & Issue Advanced, 15 digit codification incorporated.

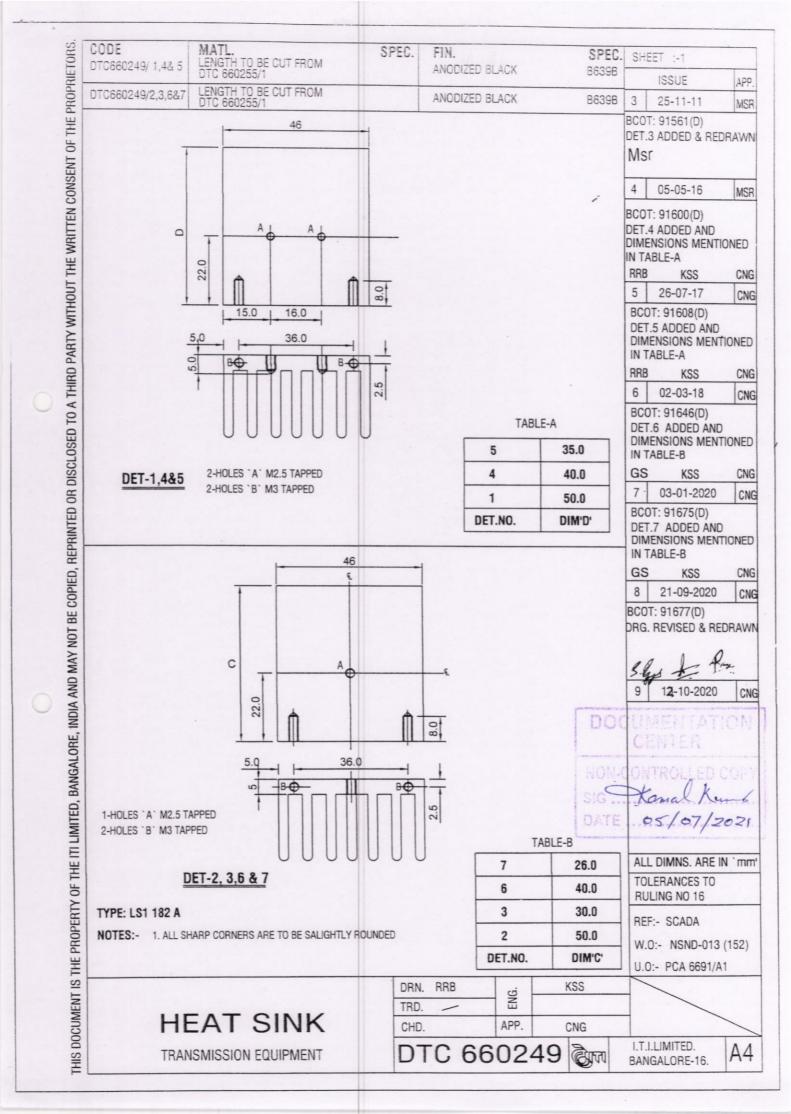
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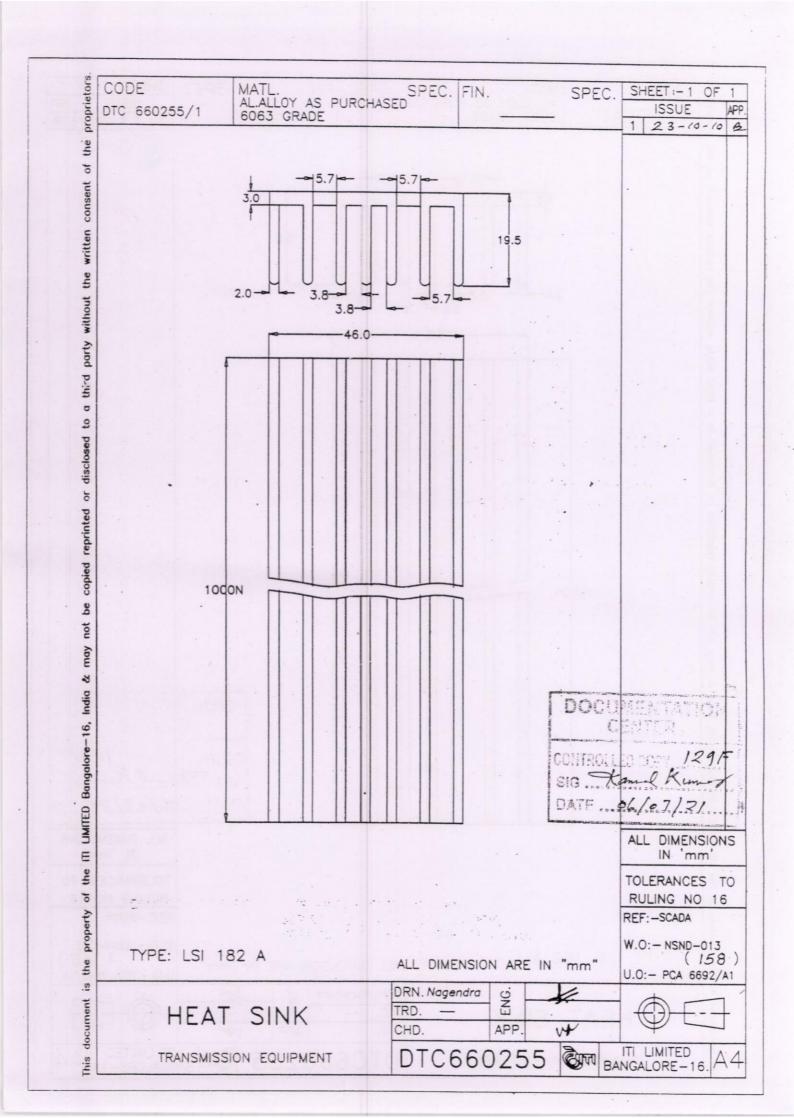
Ref : D 2009 Iss. No.2 Dated : 26-03-1997

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TERMS AND CONDITIONS FOR SUBMISSION OF TENDER

- 1. Quotation must be submitted in duplicate (one copy without pricing). in a wax sealed cover, superscribed with our tender number & due date and should reach us well before DUE DATE. Open and/or late tenders and tenders without enquiry number and due date on the cover are liable for rejection without assigning any reason.
- 2. All offers should be complete with specification/catalogue (ENGLISH only) and samples where specified.
- 3. Validity: Quotations should be valid for a period of 180 days from the due date of tender. Once quotation is accepted and order is confirmed, the price must remain firm till completion of the order.
- 4. Delivery Schedule: Quoted must be valid and remain firm from the date we confirm the order. Indicate mode of despatch (RPP/ROAD/RAIL/AIR).
- 5. Inspection: Inspection of goods at our works is final. Goods rejected will be returned on freight to pay basis. Packing & forwarding charges in respect of such consignment will be debited to your account.
- 6. Payment: Bills will be paid within 60 days from the date of receipt of materials.
- 7. We reserve the right to accept or reject any or all offers and order part or full quantity, without assigning any reason.
- 8. Please specify your income Tax Account Number and Name of I.T. Circle.
- 9. The quote must be for the quantity specified in the enquiry and should also indicate slab rates for multiples of the quantity enquired.
- 10. Components to be supplied shall be from the latest batch of production. If items are offered from stocks the lot/batch code shall not be earlier than 2 years from the date of shipment.
- 11. LIQUIDATED DAMAGES AND RISK PURCHASE CLAUSES: Time is the essence of contract and the materials against the order arising out of this enquiry must be delivered by the supplier according to the delivery schedule indicated in the purchase order. In case of any change, the supplier should inform us in advance and obtain our approval to the revised delivery schedule should the supplier fail to deliver the material in full or part thereof, we shall be entitled at our option either to recover from the supplier as agreed the liquidated damages and not as penalty, a sum equivalent to half percent of the contract price of the item per week of such delay or part thereof subject to maximum of 15% of the contract price of the item delayed or to terminate the contract in respect of the balance Quantity so delayed and purchase material elsewhere at the risk of the supplier.

12. FOR INDIGENEOUS OFFERS ONLY:

- (a) PRICES should always be quoted on F.O.R. KRISHNARAJAPURAM basis including suitable packing.
- (b) Specify applicable statutory levies, e.g. Central Excise Duty, Sales Tax, etc. In absence of these, the prices shall be treated as inclusive of all such levies & no subsequent claims will be entertained.

13. FOR FOREIGN OFFERS ONLY:

- (a) Prices must be quoted on F.O.B. Port of Despatch or Airport and Indicate estimated charges for despatch by AIR FREIGHT/AIR POST PARCEL to BANGALORE.
- (b) Prices quoted must include Agency Commission (if any) to your Indian Agents. The same must be specified, which is payable to them in Indian Rupees.
- (c) Payment: Letter of Credit or sight draft through the STATE BANK OF INDIA, BANGALORE 560016, as detailed below:

"ITI will bear only LC establishment charges once & bank charges of State Bank of India. All foreign bank's charges [i.e. charges while negotiating documents which the same are sent on the collection basis, due to certain discrepancies in the presentation of documents (LCBCs etc.)] are to be borne by Foreign Suppliers. In case of order placed on sight draft basis (FLSCAs) also, the invoice amount will be paid & all the foreign bank's charges are to the supplier's account.

Please furnish your Banker's name and address for this purpose.

Please indicate whether you fall under purview of MSMED Act 2006 and if so the certified copy of relevant registration certificate as proof may be submitted along with tender bid.

In case such certificate is not produced at the time of bid you will not be considered to be falling under this category.

N.B.: FAILURE TO ADHERE TO ANY OF THE ABOVE, WILL DISQUALIFY THE OFFER.