

Annexure-18

INSULATION REQUIREMENTS

PROJECT: 1X370 MW YELAHANKA COMBINED CYCLE
POWER PLANT



SPEC. NO.:CEGSW/
BIDADI/EPC/001

KARNATAKA POWER CORPORATION LIMITED

TITLE

**COMBINED CYCLE POWER PLANT -
POWER PLANT PIPING, VALVES AND INSULATION**

SECTION: D 1.9

SHEET 20 OF 23

DATA SHEET – A 1.9.2

1.0	<u>SPECIFIC REQUIREMENT FOR THERMAL INSULATION</u>	
1.1	Pipes	LIGHTLY BONDED MINERAL WOOL/ PRE-FORMED CALCIUM SILICATE
1.2	Equipment	ALL EQUIPMENT AS APPLICABLE
2.0	Finishing Cement	YES (FOR LIGHTLY BONDED MINERAL WOOL) DENSITY - 1100 kg/m ³
3.0	Sheathing Material	ASTM B 757 - 19000
3.1	For Pipes	ALUMINUM AS PER 757 - 19000 (EW DESIGNATION)/Gr SIC ¹ / ₂ H (OLD) OR ALUMINUM ASTM SB 209 A9 1060, TEMAR H14 OR EQUIVALENT THICKNESS : SIZE OVER OUTSIDE DIA OF INSULATION NB 450MM & ABOVE - 1.219 MM NB 150MM & ABOVE - 0.914 MM NB 150MM & LESS - 0.711 MM
3.2	For Equipment	
4.0	Design thickness is/should be based on:	
	(a) Station ambient temperature	30°C (FOR INSULATION PURPOSE ONLY)
	(b) Outer surface temperature on surface of sheathing	60°C UNDER STILL AIR CONDITION
5.0	Recommended thickness	Bidder to consider as per standard and good engineering practice
6.0	Tests	AS PER CODE

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7.0 Codes & Standards

BS 5970

BS 3958

8.0 Density of Insulation

a) LIGHTLY BONDED
MINERAL WOOL

TEMP. $>400^{\circ}\text{C}$ 150 kg/m^3

TEMP. $<400^{\circ}\text{C}$ 100 kg/m^3

b) CALCIUM SILICATE : 250 kg/m^3

Notes

For insulation thickness calculation maximum thermal conductivity indicated in relevant Indian Standard (BIS) shall be considered.

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