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|---|---|-----------------|---|---------------|---------------------------------------|--------------------|--|------------------------------|------------------------------------|--------|------------------------------------|----|
|  | MANUFACTURER'S NAME AND ADDRESS BHEL : TIRUCHIRAPPALLI / APP SUB - CONTRACTOR | | REFERENCE QUALITY PLAN | | | |  | TO BE FILLED IN BY INSURANCE | | | | |
| | ITEM /EQUIPMENT : LRB WOOL MATTRESS-IS 8183 GROUP-3 - 1993 SUB-SYSTEM : STEAM GENERATOR AND AUX | | QP NO.: CQP 1474 REV. NO.: 05 DATE :30-4-09 PAGE...1... OF...4. | | SIGN. OF MFGR'S <i>[Signature]</i> | | QP NO.: 0000-999-QVM- P -261 REV. NO.: 02 DATE : 06-05-09 PAGE...1... OF...4 VALID UPTO: 05.05.12 | | REVIEWED BY: <i>[Signature]</i> | | APPROVED BY: <i>[Signature]</i> | |
| SL. NO. | COMPONENT & OPERATIONS | CHARACTERISTICS | CL | TYPE OF CHECK | QUANTUM OF CHECK | REFERENCE DOCUMENT | ACCEPTANCE NORMS | FORMAT OF RECORD | | AGENCY | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | D* | M | C | N |
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|-----|--------------------------|---------------------------------|---|--------------|-------------------|------------------------------------|------------------------------------|------------------|-----|---|---|---|-------------------------------|---|--|
| 1.0 | MATERIAL: | | | | | | | | | | | | | | |
| 1.1 | Raw material (Rock wool) | Chemical | B | Lab analysis | 1sample/lot | As per vendor | standard | MTC | | P | V | - | | | |
| 1.2 | GI wire netting Wire | Wire dia & dimension of netting | B | Measurement | IS3150 Append 'A' | IS:3150-\$/ Col.-2 / approved Data | NTPC sheet | MTC | | P | W | V | Upto 400 deg.C \$-Note - 2 | | |
| | | Chemical | B | Lab analysis | -do- | IS:280 | IS:7887 | MTC | | P | V | V | | | |
| | | Tensile test | B | -do- | -do- | IS:280 | IS:280 | MTC | | P | V | V | | | |
| | | Wrapping test | B | -do- | -do- | IS:280 | IS:280 | MTC | | P | V | V | | | |
| | | Coating test | B | -do- | -do- | IS:280 | IS:4826 | MTC | | P | V | V | | | |
| | | Dimensions of netting | B | Measurement | -do- | IS:3150 | | MTC | | P | W | V | | | |
| | | Bend test | B | -do- | -do- | IS:280 | | MTC | | P | V | V | | | |
| 1.3 | SS wire netting: | Gauge(wire dia) | B | -do- | IS3150 | IS:6528 & | NTPC approved Data sheet | MTC | | P | W | V | Above 400 deg.C | | |
| | | Dimension of netting | B | -do- | IS6528 | P.S. /IS:3150 | IS:3150 & NTPC Approved data sheet | MTC | | P | W | V | | | |
| | | Chemical | B | Lab analysis | - do- | IS:6528 | | GrX0.04Cr18 Ni10 | MTC | | P | V | | V | |
| | | Reverse bend test | B | -do- | - do- | -do- | -do- | -do- | MTC | | P | V | | V | |
| | | Wrapping test | B | Lab analysis | IS6528 | IS:6528 | | Gr X0.04Cr18Ni10 | MTC | | P | V | | V | |

LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.
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Note:# NTPC Inspection Engineer to check, approval date/ revision no. of reference documents at the time of inspection

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|-------|--------------------|----------------------------|---|--------------|---------------------|---|-----|--|--|---|---|---|---|
| 2.0 | IN-PROCESS CONTROL | | | | | | | | | | | | |
| 2.1 | Finished mattress | Dimension | B | Measurement | IS8183 | IS:3144, IS:8183 / NTPC approved Data sheet | MTC | | | P | V | - | |
| 3.0 | FINAL INSPECTION | | | | | | | | | | | | |
| 3.1 | Mattress | Bulk density | B | Lab test (R) | IS8183 Appendix 'C' | IS:3144, IS:8183 / NTPC approved Data sheet | MTC | | | P | W | W | Upto 400 deg.C - 100Kg/Cubic m & Above 400 deg.C 150Kg/Cubic metre @ Note - 4 |
| 3.2 | | Recovery after compression | B | (T)@ | - do- | IS:8183 Appdx-A IS:8183/ NTPC approved Data sheet | MTC | | | P | W | W | |
| 3.3 | | Shot content | B | (R) | -do- | - do- | MTC | | | P | W | W | |
| 3.4a | | Moisture content | B | (R) | -do- | IS:3144 | MTC | | | P | W | W | |
| 3.4 b | | Moisture absorption | B | (T)@ | -do- | IS 3144 | MTC | | | P | W | W | @ Note - 4 |
| 3.5 | | Incombustibility | B | (T)@ | -do- | -do - | MTC | | | P | W | W | @ Note - 4 |
| | | Incombustibility* | B | (T)@ | -do- | -do- | MTC | | | P | W | W | *After 100 hours exposure to service temperature @ Note - 4 |
| 3.6 | | Thermal conductivity | B | (Ts) @ | -do- | IS:3346 | MTC | | | P | W | W | @ Note - 4 |
| 3.7 | | Sulphur content | B | (R) | -do- | IS:3144 | MTC | | | P | W | W | |

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|-----|---------------------------------|-------------------------------|---|--------|----------------------|-------------------|---------|-----|--|---|---|---|------------|
| 4.0 | Other Tests | | | | | | | | | | | | |
| 4.1 | | Resistance to Vibration | B | (T)@ | IS 8183 Appendix 'C' | IS : 3144 | IS:8183 | MTC | | P | W | W | @ Note - 4 |
| 4.2 | | Resistance to Jolting | B | (T)@ | -do- | -do- | -do- | MTC | | P | W | W | @ Note - 4 |
| 4.3 | | Heat resistance at 550 deg.C | B | (T)@ | -do- | -do- | -do- | MTC | | P | W | W | @ Note - 4 |
| 4.4 | | Alkalinity | B | (R) | -do- | IS:8183&Appd ix-B | IS:8183 | MTC | | P | W | W | |
| 4.5 | | Chloride content (corrosives) | B | (R) | -do- | -do- | IS:8183 | MTC | | P | W | W | |
| 5.0 | Marking, preservation & packing | Identification | B | -do- | IS8183 | IS: 8183 | IS:8183 | TC | | P | W | W | |
| | | Protection | M | Visual | IS:8183 | Note-3 | | | | P | W | V | |



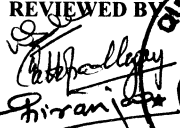
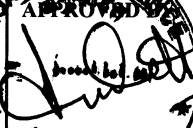
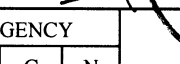
Legend : (R) : Routine Test (T)/(TS) : Type Test MTC : Manufacture's Test Cert.

Note - 1: List of NTPC approved vendors for procuring the item:

1. Mineral Wool Rock Fibres Ltd., Rajnandgaon
2. Lloyd Insulation Chennai, Works at: Rockwool Industries, Bhilai
3. Rockwool India Ltd., Medak, A.P.
4. Lapinus Rockwool Ltd., Gwalior

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Note-2: The relevant IS Nos.& year of issue: IS : 8183-1993 ;
 IS:3150-1982 ; IS:280-1978 ; IS:7887-1992 ; IS:1608-2005
 IS:4826-1979 ; IS:6528-1995 ; IS:3144-1992 ; IS:3346-1980

Note-3: The mattresses shall be packed in polythene sheets.
 Further it shall be put in polythene bonded hessian bag.
 Mattresses of same thickness shall be packed in one bag.

Note-4: @ Type test marked as 'T' shall be done once in 3 months. (BHEL Witness once in 3 months & NTPC witness once in 6 months.)
 Type test marked as 'Ts' shall be done once in 12 months.
 Thermal Conductivity test – NTPC will verify test report of jointly (BHEL-NTPC) sealed samples
 if tested at :

1. IIT Chennai
2. CBRI Roorkee

Note-5 :All review documents shall be submitted during witness / final inspection to BHEL- QC/ Customer Nominated agency

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