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Government of India
Ministry of Railways
Research Designs & Standards Organisation
Manak Nagar, Lucknow - 226 011

FAX No. 0522 - 245374

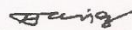
No. EL/3.2.185

Dated: 16.01.2004

AMENDMENT NO. 1

Sub: Amendment of Specification No. ELRS/Spec/RSI/0030 (Rev '0')
Dec. 2003 Specification for compact design of uprated silicon
Rectifier for AC single phase locomotive.

| Clause No. | Amendment |
|---------------------------------|---|
| 5.10.4 (I) a,b & 5.10.4 (ii) | Temperature rise of 15° is to be read as 20°C |


(S S JOSHI)
For Director General (Electrical)

Copy to: 1) The Secretary Electrical (RS),
Railway Board, Rail Bhavan, New Delhi

2) Chief Electrical Engineer,
CLW, Chittaranjan - 713 331
West Bengal.

412447

No. EL/3.2.185

Dated: 03.6.2004

AMMENDMENT No. 2

Sub: Amendment of Specification No. ELRS/Spec/RSI/0030 Dec.
2003 Specification for compact design of uprated silicon Rectifier
for AC single phase Locomotive.

| S.No. | Clause No. | Amendment |
|-------|---------------------------------------|--|
| 1. | 3.8 5.10.4 (i) (a) & (b) 5.10.4 | Temperature for 70° C ambient is to be read as 75° C° |
| 2. | 5.10.4 (ii) | Temperature rise of 15° C is to be read as 20° C |

Ram
3.6.04

(RAM PRAKASH)

For Director General (Electrical)

q/c

Copy to:

The Secretary Electrical (RS)
Railway Board, Rail Bhavan,
New Delhi

Chief Electrical Engineer,,
CLW, Chittaranjan – 713 331
West Bengal

412371

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**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RESEARCH DESIGNS AND STANDARDS ORGANISATION
MANAK NAGAR, LUCKNOW - 226 011**

No. EL/3.2.185

Dated: 06.08.2008

AMMENDMENT No. 3

Sub: Amendment to specification No. ELRS/Spec/RSI/0030 (Rev '0') Dec. 2003 Specification for compact design of uprated silicon Rectifier for AC single-phase locomotive.

| Clause | Existing | Revised |
|--------------------------|---|---|
| 2.3 (b) | Hole storage capacitor if required across diode | Hole storage of capacitor should be provided across the diodes as per Annexure III S. No. 06 specification. |
| S. NO. 4 of Annexure III | ICAR type MLR25 M50 25mfd 500V | ICAR type MSR 25D-22-50 Self healing capacitor 22mfd 550V |


Clause No. 5.3: Tests on Rectifier Assemblies.

| S.N | Items | Reference | Type | Existing Routine Test | Revised Routine Test |
|------|--|---------------------|------|-----------------------|--------------------------------|
| 1 | Visual Inspection & Dimension with tolerance | Cl. 5.10.1 | ✓ | ✓ | ✓ |
| 2 | Ventilation air-flow Test | IS:7788 Cl. 10.2.2 | ✓ | X | ✓ |
| 3 | Mechanical Vibration and shock tests | IS:7788 Cl. 10.2.3 | ✓ | X | X |
| 4* | Temperature Rise test of diode | IS:7788 Cl. 10.2.6 | ✓ | ✓ | ✓ Only With Blower motor on |
| 5 | Starting duty cycle test | IS:7788 Cl. 10.2.7 | ✓ | X | X |
| 6 | Current distribution test | IS:7788 Cl. 10.2.5 | ✓ | ✓ | ✓ |
| 7 | Impulse Voltage Test | IS:7788 Cl. 10.2.8 | ✓ | X | ✓ |
| 8 | Losses and Efficiency Test | IS:7788 Cl. 10.2.12 | ✓ | X | X |
| 9 | Short Circuit Test | IS:7788 Cl. 10.2.15 | ✓ | X | X |
| 10** | Insulation & Dielectric test | IS:7788 Cl. 10.2.9 | ✓ | ✓ | ✓ |

| | | | | | |
|----|--------------------------------|---------------------------|---|---|---|
| 11 | Noise measurement | IEC: 61287 Cl.2.4.6.11 | ✓ | X | X |
| 12 | Moisture Absorption test | IS:10192 | ✓ | X | X |
| 13 | Check of diode characteristics | IS:7788 Cl. 10.2.13 | ✓ | X | X |

* One unit after every ten units will be tested as per clause No. 5.3 of specification.

** IR tests during routine inspection may be done without any limit of RH. IR value should be more than 100 megohms irrespective of the RH value. However, one unit after every ten units will be tested as per clause No. 5.3 of specification.


 (M K GUPTA)
 For Director General (Electrical)

Copy to: 1. The Secretary Electrical (RS) (attn. Sri Mohit Chandra, Director RS)
 Railway Board, Rail Bhavan,
 New Delhi – 110 001

2. Chief Electrical Engineer,
 Chitranjan Locomotive Works,
 Chittaranjan – 713 331 (West Bengal)

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