

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

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TEST REPORT

Sheet 1 of 4

NAME & ADDRESS OF THE CUSTOMER CROMPTON GREAVES LIMITED S3 - DIVISION, A-3, MIDC, AMBAD, NASHIK- 422 010.	TEST REPORT NO. : LSWG/31 DATE : 16/04/2012	
	CUSTOMER REF. NO.	DATED
	E-mail	19/03/2012
	DATE OF SAMPLE RECEIPT	DATE OF TESTING
	12/04/2012	12/04/2012 to 13/04/2012
SAMPLE DESCRIPTION 145kV SF6 GAS CIRCUIT BREAKER Rated voltage : 145kV Rated normal current : 3150A Rated frequency : 50 Hz No. of poles : 01 Quantity (tested) : 1 no. Further details as per sheet 2 of 4	SAMPLE IDENTIFICATION ERDA sample code no. : PLV-LSWG-05/01 Type designation: 120-SFM-32B Manufacturer's name : M/s. Crompton Greaves Limited, Nashik. Drawing No.: 4920119 (Rev. 0)	
TEST DETAILS (Sub-contracted) i) Temperature-rise tests ENCLOSURES: 1) Photograph no.: 05/01/A 2) Drawing No. : 4920119 (Rev. 0) NOTE: Temperature-rise test was carried out by keeping the pole in horizontal position as requested by the customer. REMARKS : Sample conforms to the requirement of the customer for the tests carried out.		TEST SPECIFICATION As per customer's requirement & test procedure followed as per Cl. no. 6.5 of IEC : 62271 - 100 :2008
 Prepared By	 Checked By	 Approved By

Note : 1. This report relates only to the particular sample testing in good condition received by ERDA at Crompton Greaves Ltd., Nashik.

2. This report can not be reproduced in part under any circumstances

3. Publication of this report requires prior permission in writing from Director, ERDA.

4. Only the tests asked for by the customer have been carried out.

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Date: 16/04/2012

TECHNICAL SPECIFICATION ASSIGNED BY THE CUSTOMER :

145kV SF6 GAS CIRCUIT BREAKER

- | | |
|---|---|
| 1) Test specification | : As per customer's requirement & test procedure followed as per Cl. no. 6.5 of IEC : 62271 - 100 :2008 |
| 2) Manufacturer's Name | : M/s. Crompton Greaves Ltd., Nashik. |
| 3) Type Designation | : 120-SFM-32B |
| 4) Rated Voltage | : 145kV |
| 5) Rated normal current | : 3150A |
| 6) No. of Poles | : 01 |
| 7) Rated Frequency | : 50 Hz |
| 8) Rated Power frequency withstand voltage | : 275kV rms |
| 9) Rated Lightning Impulse withstand voltage | : 650kVp |
| 10) Rated short circuit breaking capacity | : 40kA rms |
| 11) Rated short circuit making capacity | : 100kAp |
| 12) Rated short time withstand current & its duration | : 40kA rms for 3 seconds |
| 13) Rated Maximum pressure of SF6 for Interruption | : 7.0kg/cm ² -gauge at 20°C |
| 14) Rated Minimum pressure of SF6 for Interruption | : 6.0kg/cm ² -gauge at 20°C |
| 15) Rated Operating Sequence | : O-0.3 sec-CO-3 min-CO |
| 16) Insulation class of insulating material | : Class B |
| 17) Contact resistance of main circuit | : ≤ 45 micro-ohms |

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Date: 16/04/2012

TEST RESULTS:

Sr. No	Particulars of tests & Clause No.	Requirements as per specification	Obtained Value	Remarks
1.0	Temperature-rise Tests (As per customer's requirement & test procedure followed as per Cl. No. 6.5)			Conforms
1.1	Measurement of the resistance of the main circuit (Cl. No. 6.4) (Before Temperature-rise tests)			
	Ambient air temperature (°C)		28	
	Test current (A DC)	50 3150	100	
	Resistance measured across the terminal pad (μ-ohm)	* ≤ 45	37.9	
1.2	Temperature-rise tests (As per customer's requirement & test procedure followed as per Cl. No. 6.5)			
	Ambient air temperature (°C)	10....40	35	
	Test current	3150 A	3150 A	
	Cross section of 'Cu' Busbars for temporary connection	* 75 mm x 12 mm X 3 nos.	75 mm x 12 mm X 3 nos.	
	('Cu' Busbars were used from source to incoming of the test equipment for the temporary connections)			
	(* Specified by the customer)			

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Sr. No	Particulars of tests & Clause No.	Requirements as per specification	Obtained Value	Remarks
	Temperature-rise limits (°C) [Table 3 of IEC 62271-1 :2011] [Points of measurements as per drawing no. 4920119 (Rev. 0)]			
	- Upper Terminal Pad (Bare Aluminium)	≤ 50	33	
	- 1 Meter away from upper terminal pad on temporary connection	33 ± 5.0	30	
	- Lower Terminal Pad (Bare Aluminium)	≤ 50	31	
	- 1 Meter away from lower terminal pad on temporary connection	31 ± 5.0	27	
	- Stationary main contact (Fixed contact) (Cu- silver plated)	≤ 65	48	
	- Stationary contact holder (Aluminium casting)	≤ 75	41	
	- LT Spacer (Aluminium - casting)	≤ 75	39	
	- Moving Main Contact	≤ 65	49	
	- Puffer cylinder (Aluminium - Silver plated)	≤ 75	50	
	- SF6 Gas	----	34	
	- Porcelain shade (Porcelain)	----	15	
	- Flange (Metal part in contact with insulating material) (As per insulation Class B specified by the customer)	≤ 90	27	
1.3	Measurement of the resistance of the main circuit (Cl. No. 6.4) (After Temperature-rise tests)			
	Ambient air temperature (°C)		26	
	Test current (A DC)	50 3150	100	
	Resistance measured across the terminal pad (μ -ohm)	$\leq 37.9 + 20\%$	35.0	

Prepared By

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Checked By

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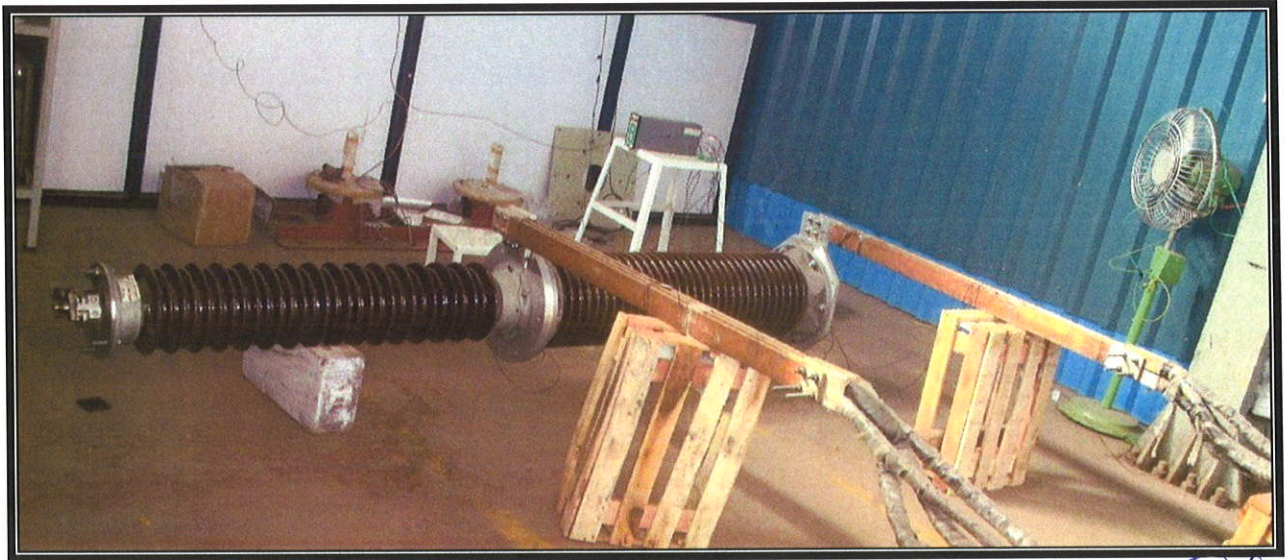
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145kV SF6 GAS CIRCUIT BREAKER



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Photograph no.: 05/01/A

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