

Test Certificate of Special test to prove suitability to climatic class C2, to environmental class E2 and to fire behaviour test class F1

Tested samples/items Dry-type power transformer

Designation 1600 TR 15 / 0,4 PR
Rated power 1600 kVA; Rated voltages 15/0,4 kV; Rated frequency 50 Hz

Manufacturer MF Trasformatori s.r.l. - Brescia - Italy

Client MF Trasformatori s.r.l. - Brescia - Italy

Tests date **from** November 18, 2009 **to** January 29, 2010

Tested by CESI S.p.A. - Milan - ITALY

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in the reference documents, identified in this certificate, has been subjected to the series of proving tests in accordance with

IEC 60076-11 (2004)

This Test Certificate has been issued by CESI in accordance with above mentioned Standards.

The results are shown in the record of Proving Tests and the oscillograms attached in the Test Reports. The values obtained and the general performance are considered to comply with the above Standards and to justify the ratings assigned by the Manufacturer as listed on page No.2.

This Test Certificate applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

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CESI S.p.A.
Energy Division
Technical Area Components
"Testing Laboratories"
Manager



1 - Ratings assigned by the Manufacturer as proved by the tests

rated power	1600 kVA
number of phases	3
rated voltage of the high-voltage winding (primary winding)	15 kV
rated voltage of the low-voltage winding (secondary winding)	400 V
rated current of the high-voltage winding (primary winding)	61,6 A
rated current of the low-voltage winding (secondary winding)	2309 A
rated frequency	50 Hz
connection symbol	Dyn
climatic class	C2
environmental class	E2
fire behaviour class	F1
insulation system temperature	F

2 – This Certificate also verifies

Checking of gases emission.

3 – Reference documents

The following reference documents are integral part of this Certificate

No.	Description	CESI registration
1	CESI Test Report	A9032401
2	CESI Test Report	A9035120
3	CESI Test Report	B0002673
4	ISMES Test Report	B0002783
5	Manufacturer's drawings	B0002352 no. 1 to 4

4 – Additional references

Not applicable.

5 – Record of proving tests

The table below lists all the tests performed and the references to the relevant Test Reports containing the test values.

No. Standard and clause	Description of tests	Reference documents
IEC 60076-11 clause 27.4	Thermal shock test	A9032401 A9035120
IEC 60076-11 clause 26.3.2	Condensation and humidity penetration test	A9032401
IEC 60076-11 clause 28.3	Fire behaviour test	B0002673
IEC 60076-11 clause 28.2	Checking of gases emission	B0002783

6 – Identification of the sample

The Manufacturer guarantees that the tested object is manufactured according to the submitted drawings. CESI checked that these drawings adequately represent in shape and dimensions the essential details and the parts of the tested object.

These drawings identified by CESI and numbered B0002352 no. 1 to 4 have been returned to the Client.