

FIRE TEST OF BUILDING ELEMENTS

According to the European standard NF EN 12101-3 : 2002-09
and the French Decree dated of August 3rd 1999

CERTIFICATE OF APPROVAL

Subject : Fire tests of a range of electrical motors Ref. M3BPW

Tests n° : 04 - G - 076
04 - H - 073
04 - H - 077
04 - H - 087
Report n° : 04 - H - 087
Sponsor : ABB OY, ELECTRICAL MACHINES LV MOTORS
Strömbergin Puistotie 5A
FIN - 65101 VAASA

Carried out on : February 25th, 2004
February 24th, 2004
February 25th, 2004
March 3rd, 2004

Scope : A range of electrical motors of low-voltage, three-phase, asynchronous, closed cage electric motors with the following features :

- manufacturer : ABB OY, ELECTRICAL MACHINES LV MOTORS
- reference : M3BPW
- construction : TEFC
- frame sizes : from 160 up to 400
- electrical ratings up to 560 kW
- nominal rated voltages supply between 190 V and 690 V
- rotational speeds : from 4 poles up to 12 and multi speed motors
- insulation class/temperature rise class/specifications : H/F-B/EN 60034-1
- frame and end covers material : cast iron
- cooling fan material : aluminum (plastic fan allowed)
- fan cover : steel
- Maximal frequency equal to 60 Hz for both applications

airings features for the frame size motors from 160 mm up to 400 mm :

- Bearing type / arrangement /class of fit /lubricant DE :
ball bearing regreasable / locked bearing /C4 /UNIREX N2 (ESSO)
- Bearing type / arrangement /class of fit /lubricant NDE :
ball bearing regreasable / free bearing /C4 / UNIREX N2 (ESSO)

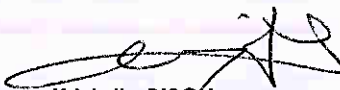
The insulation system depends on the application DOL or VSD. The manufacturer has to respect the description of the insulation system given in the technical files.

Test procedure : These motors were tested according to the Annexe D, in association with generator, with a dynamic load calculated according to ISO 281 and defined in the technical file of manufacturer. The dimensioning of the motors took into consideration axial and radial loads, the tests had been performed with a radial load corresponding.

Conclusions :

OPERATING TEMPERATURE	: THREE HUNDRED DEGREES CELSIUS (300° C)
OPERATING TIME	: SIXTY MINUTES (60 min)
TEMPERATURE CLASS/TIME	: F 300 (60)
APPLICATION CLASS	: DUAL PURPOSE

Maizières-lès-Metz, France, September 29th, 2006


Kristelle BISCH
Engineer in Charge of Tests

This certificate of test is for information only. Only a full copy of the test report, if any, will allow the conformity checking necessary for the validity of the object.