



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 Puistolie 5A
FIN - 65101 VAASA
- 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 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)
- 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 : **TWO HUNDRED DEGREES CELSIUS (200°C)**
OPERATING TIME : **ONE HUNDRED AND TWENTY MINUTES (120 min)**
TEMPERATURE CLASS/TIME : **F 200 (120)**
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.