

## FIRE TEST OF BUILDING ELEMENTS

According to the European standard NF EN 12101-3 : 2002-09

### CERTIFICATE OF APPROVAL

- Subject : **Fire tests of a range of electrical motors Ref. M3BPW ... V1**
- Tests n° : **04 - H - 081** Carried out on : **March 1<sup>st</sup>, 2004**  
**04 - H - 086** : **March 2<sup>nd</sup>, 2004**  
**04 - G - 082** : **March 3<sup>rd</sup>, 2004**  
**09 - H - 156** : **March 26<sup>th</sup>, 2009**  
**09 - H - 237** : **June 11<sup>th</sup>, 2009**
- Report n° : **04 - G - 082**
- Sponsor : **ABB OY MOTORS**  
**Strömbergin Puistolle 5A**  
**FIN - 65101 VAASA**
- Scope : **A range of electrical motors of low-voltage, three-phase, asynchronous, closed cage electric motors with the following features, for vertical application :**
- manufacturer : **ABB OY MOTORS**
  - reference : **M3BPW...V1**
  - construction : **TEFC**
  - frame size : **from 160 up to 400**
  - electrical ratings up to **560 kW**
  - nominal rated voltages supply up to **690 V**
  - rotational speeds : **from 4 up to 12 poles and multi speeds motors**
  - insulation class/temperature rise class/specifications : **H/F-B/EN 60034-1**
  - frame and end covers material : **cast iron**
  - cooling fan material : **aluminium (plastic fan allowed)**
  - fan cover : **steel**
  - applications : **DOL and VSD (maximal rotational speed 1800 rpm/min)**
  - Maximal frequency equal to **60 Hz for both application**
  - **NDE free ball-bearing, class of fit C4, greased by UNIREX N2 (ESSO)**
  - **DE locked angular contact ball bearing greased by UNIREX N2 (ESSO)**
- THE DIRECTION OF THE DE-BEARING SHALL SUIT WITH THE DIRECTION OF AXIAL LOAD**
- Test procedure : These motors were tested according to the Annexe D, with a dynamic load calculated according to ISO 281 and defined in the technical file of manufacturer. The last test was performed with a corresponding axial load in vertical position.
- Conclusions : OPERATING TEMPERATURE : **FOUR HUNDRED DEGREES CELSIUS (400° C)**  
OPERATING TIME : **NINETY MINUTES (90 min)**  
TEMPERATURE CLASS/TIME : **F 400 (90), F300**  
APPLICATION CLASS : **DUAL PURPOSE**

Maizières-lès-Metz, France, November 9<sup>th</sup>, 2009



**Roman CHIVA**  
Head of department "Tests 1"