



CERTIFICATE NUMBER

05-LD489786B-PDA

DATE

08 March 2005

ABS TECHNICAL OFFICE

London Ship Engineering

CERTIFICATE OF Design Assessment

This is to Certify that a representative of this Bureau did, at the request of
ABB Oy

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate. It will remain valid for five years from the date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Motors, Low Voltage

MODEL: M2CA

ABS RULE: 2005 Steel Vessel Rules 1-1-4/7.7 and 4-8-3/3

OTHER STANDARD: IEC 60034-1;

AMERICAN BUREAU OF SHIPPING

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Engineering Type Approval Co-ordinator

ABB Oy
Electrical Machines - LV Motors
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Product: Motors, Low Voltage

Model: M2CA

Intended Service:
Marine Environments

Description:
Steel framed, three phase induction motors in frame sizes 280 to 400.

Ratings:
12 kW to 710 kW, 220-690 Volts, 50/60Hz, 2-8 pole, IP55 and Insulation Class F.

Service Restrictions:
The enclosure ingress protection is to be suitable for its intended location.

Comments:

1. The motors are rated and certified for ambient temperature between -20 degrees C and +40 degrees C.
2. Each design of motor of 100 kw (135hp) and over intended for essential services is to be assessed by testing in accordance with the "type tests" schedule indicated in 4-8-3/Table 3. Each subsequent production unit of an accepted design is to be tested in accordance with the routine tests schedule indicated also in 4-8-3/Table 3

Term of Validity:
This product/model is covered under Product Design Assessment (PDA) Certificate # 05-LD489786B-PDA, dated 08/Mar/2005. This PDA Certificate expires Mar of 2010. It will remain valid for the 5 years from date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first).

STANDARDS

ABS Rules:
2005 Steel Vessel Rules 1-1-4/7.7 and 4-8-3/3



International:
IEC 60034-1