DNV·GL

Certificate No:
TAK000006M

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Protective Coating Systems - Seawater Ballast Tanks

with type designation(s)
Intergard 5600

Issued to
International Paint Saudi Arabia Ltd.
DAMMAM, Saudi Arabia

is found to comply with
Det Norske Veritas' Type Approval Programme 1-602.1, 2011, Protective Coating Systems - Seawater Ballast Tanks and Double-side Skin Spaces
IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC)
IACS Unified Interpretations SC223. For Application of SOLAS Regulation II-1/3-2 Performance Standard for Protective Coatings (PSPC) for Dedicated Seawater Ballast Tanks in All Types of Ships and Double-side Skin Spaces of Bulk Carriers.

Application :

For use in ballast tanks, double-skin spaces, cofferdams and similar areas. Surface preparation and coating application as per PSPC or manufacturer's recommendations, whichever is stricter.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2019-12-15**.

Issued at **Høvik** on **2015-12-16**

for **DNV GL**

DNV GL local station: **Bahrain**

Approval Engineer: **Gisle Hersvik**

Martin Strande
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Intergard 5600, 2-component epoxy based, light coloured coating for corrosion protection of steel surfaces.

Application/Limitation

This approval is solely connected to the corrosion prevention properties of the coating material. The approval does not include any evaluation of toxicity, contamination, pollution, or fire technical properties.

Intergard 5600 is approved for application on blast cleaned surfaces and on prequalified shop primed surfaces. The following shop primers have been prequalified:

Interplate Zero	[International Paint]
Interplate 937	[International Paint]
Interplate 855	[International Paint]
Interplate 805	[International Paint]
Interplate 317	[International Paint]
Interplate 11	[International Paint]
SigmaWeld 165	[PPG / Sigma Coatings]
SigmaWeld 190	[PPG / Sigma Coatings]
SigmaWeld 199	[PPG / Sigma Coatings]
Muki Z 2001	[Jotun A/S]
Hempel's Shopprimer ZS 15890	[Hempel A/S]
W53-02	[Taicang Lanyan Paint Co.]
SD Zinc 1000 HA (S)	[NOF Kansai Marine Coatings]
Carboweld 11P	[Carboline]
Cerabond 2000	[Chugoku Marine Paints]
Rainbow SP-09	[Yung Chi Paint & Varnish Mfg. Co]

Surface preparation and coating application as per PSPC or manufacturer's recommendations, whichever is stricter.

The durability of the applied coating system will depend on the steel surface preparation, coating application and the environmental conditions.

The Type Approval Certificate is invalid if the formulation of the epoxy coating **Intergard 5600** is changed to a degree deemed significant by DNV GL. If the formulation of any of the listed pre-qualified shop primers is changed to a degree deemed significant by DNV GL that shop primer cannot be used as part of the Protective Coating System.

Type Approval documentation
Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**. The tests reported in the DNV Energy, STS, Bodycote and EXOVA Reports are carried out according to the procedures in IMO Resolution MSC.215(82) Performance Standard for Protective Coatings (PSPC), ref. IACS UI SC223;

- DNV Energy Report No. 2009-5178, Rev. 00, "Crossover test of Intergard 5600 on Interplate 805" of 2009-04-30.
- DNV Energy Report No. 2009-5179, Rev. 00, "Crossover test of Intergard 5600 on Sigmaweld 190" of 2009-04-30.
- DNV Energy Report No. 2009-5180, Rev. 00, "Crossover test of Intergard 5600 on Hempel's Shopprimer ZS 15890" of 2009-04-28.
- DNV Energy Report No. 2009-5182, Rev. 00, "Crossover test of Intergard 5600 on Muki Z 2001" of 2009-04-28.

- DNV Energy Report No. 2009-5183, Rev. 00, "Crossover test of Intergard 5600 on W53-02" of 2009-04-30.
- DNV Energy Report No. 2009-5197, Rev. 00, "Crossover test of Intergard 5600 on Interplate 855" of 2009-05-05.
- DNV Energy Report No. 2009-5199, Rev. 00, "Crossover test of Intergard 5600 on Interplate Zero" of 2009-05-07.
- DNV Energy Report No. 2009-5200, Rev. 00, "Crossover test of Intergard 5600 on Kansai SD1000HA (S)" of 2009-04-30.
- Bodycote Report No. N807 366, Issue 1, "Ballast Tank Coating Test Intergard® 5600 Epoxy Paint over Interplate 317 Zinc Silicate Shop Primer" of 2009-03-13.
- Bodycote Report No. N807 366, Issue 2, "Ballast Tank Coating Test Intergard® 5600 Epoxy Paint over Interplate 317 Zinc Silicate Shop Primer" of 2009-03-13.
- Bodycote Report No. N807 369, Issue 2, "Ballast Tank Coating Test Intergard 5600 over Carboweld 11P Zinc Silicate Shop Primer" of 2009-01-05.
- STS Test Report No. 7207/D5078/H/2/A of 2009-08-24 (Intergard 5600 over Interplate 937).
- STS Test Report No. 7207/D5078/H/1/A of 2009-08-24 (Intergard 5600 over Interplate 11).
- STS Test Report No. 7207/D5078/H/3/A of 2009-08-24 (Intergard 5600 over Sigmaweld 199).
- STS Test Report No. 7207/D5078/H/5/A of 2009-08-24 (Intergard 5600 over Rainbow SP09).
- EXOVA Report No. N951809 (D5754/D/15), Issue No. 1, "Ballast Tank Coating Test of 2 * 160 µm Intergard 5600 on Interplate Zero" of 2010-06-29.
- EXOVA Report No. N953320 (D5078/G/108), Issue No. 2, "Ballast Tank Coating Test of 2 * 160 µm Intergard 5600 on Cerabond 2000" of 2010-10-05.
- EXOVA Report No. N953321 (D5078/G/107), Issue No. 2, "Ballast Tank Coating Test of 2 * 160 µm Intergard 5600 on Sigmaweld 165" of 2011-01-11.

Marking of product

Product/package shall be marked with *manufacturer's name and address*; **International Paint Saudi Arabia Ltd., Saudi Arabia** and *type designation*; **Intergard 5600**, and *date of production/batch number*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after two (2) years (Certificate Retention) and at renewal after four (4) years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE