

ABS

00-HS174530-PDA
CERTIFICATE NUMBER

24 July 2000
DATE

ABS Houston - Engineering Services Department
ABS TECHNICAL OFFICE

CERTIFICATE OF Product Design Assessment

This is to Certify **ITW Philadelphia Resins Corporation**
(COMPANY)

that a representative of this Bureau did, at the request of the above noted Company, 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 do not waive 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; and 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)

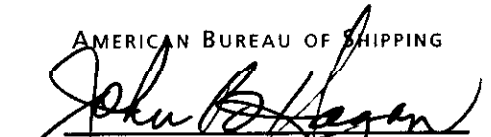
PRODUCT: Phillybond Orange

MODEL: Sealant

ABS RULE: None

OTHER STANDARD: Manufacturers's Production Standards

AMERICAN BUREAU OF SHIPPING


(ENGINEER)
John B. Hagan



Attachment: Page 1 of 2
Refer to: JP/T-8-6
File Ref.: P-45021
Ref: 174530/182666

6 July, 2000
(Revised 24 July 2000)

Type Approval - Certificate/Listing Format

Certificate No: Pending

Entry Date :

**Name of Equipment/
Component Manufacturer:** *ITW Philadelphia Resins*
130 Commerce Drive
Montgomeryville, PA 18936
U.S.A.
Phone No: 215-855-8450
Fax No: 215-855-4688

Equipment/Component: Phillybond Orange

Model: Sealant

Description: Phillybond Orange is a two component, epoxy paste developed for sealing any type gap where both mechanical and thermal expansions and contraction will take place. It adheres well to steel, brass and other epoxies and epoxy chocking materials. It is resistant to seawater and lubricating oils. It has good adhesive strength and flexibility over a wide temperature range.

Intended Service: Phillybond Orange is used to seal exposed edges of epoxy chocking compounds in stern tube applications.

Rating: Tensile strength: 45 kg/cm² (640 psi), ASTM D-638
Adhesive Strength: 40 kg/cm² (567 psi)-on steel
35 kg/cm² (500psi)-on brass
39.5 kg/cm² (563 psi)-on CHOCKFAST Orange
Lap Shear on Steel: 30 kg/cm² (424 psi), ASTM D-1002
Elongation: 37.5%
Viscosity, Mixed: 464000 cps (Paste Consistency)

Standards: Manufacturer's production standards

Service Restrictions: Do not apply Phillybond Orange when the surface temperature is below 13°C (55°F). See also Notes (a) and (c) below.

Comments: See Note (b) below.

Notes: (a) Type approval of this product is based on compliance, in all respects, with the manufacturer's production standards in association with the intended service and is limited to the design parameters (maximum working pressure and temperature) as indicated below. See Note (c).
(b) For each application, follow procedure in manufacturer's technical bulletins No. 632 and 646.



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- c) Each time Phillybond Orange is used for sealing exposed edges of CHOCKFAST in stern tube applications, maximum working pressure is not to exceed the manufacturer's recommended pressure on Phillybond Orange of 5.3 kg/cm^2 (75 psi). Operating temperature is not to exceed 43°C (110°F). **As per the manufacturer's recommendation, the material is suitable for use at this temperature, because the actual heat distortion temperature, i.e. the point at which physical properties will significantly decrease, is slightly greater than 43°C (110°F).**

ITW Philadelphia Resins Corporation

130 Commerce Drive

P. O. Box 309

Montgomeryville

Pennsylvania

18936

United States of America

Telephone: 215-855-8450

Fax: 215-855-4688

Certificate No: 00-PA19210-X

Product : Phillybond Orange

Model Name: Sealant

Intended Service:

Phillybond Orange is used to seal exposed edges of epoxy chocking compounds in stern tube applications

Description:

Phillybond Orange is a two component, epoxy paste developed for sealing any type gap where both mechanical and thermal expansions and contraction will take place. It adheres well to steel, brass and other epoxies and epoxy chocking materials. It is resistant to seawater and lubricating oils. It has good adhesive strength and flexibility over a wide temperature range

Ratings:

Tensile strength: 45 kg/cm² (640 psi), ASTM D-638; Adhesive Strength: 40 kg/cm² (567 psi)-on steel; 35 kg/cm² (500 psi)-on brass; 39.5 kg/cm² (563 psi)-on CHOCKFAST Orange; Lap Shear on Steel: 30 kg/cm² (424 psi), ASTM-D-1002; Elongation 37.5%; Viscosity, Mixed: 464000 cps (Paste Consistency)

Service Restrictions:

Do not apply Phillybond Orange when the surface temperature is below 13 degrees C (55 degrees F). Refer to Comments.

Comments:

a) Type approval of this product is based on compliance, in all respects, with the manufacturer's production standards in association with the intended service and is limited to the design parameters (maximum working pressure and temperature) as indicated below. Refer to c); b) For each application, follow procedure in manufacturer's technical bulletins No. 632 and 646; c) Each time Phillybond Orange is used for sealing exposed edges of CHOCKFAST in stern tube applications, maximum working pressure is not to exceed the manufacturer's recommended pressure on Phillybond Orange of 5.3 kg/cm² (75 psi) Operating temperature is not to exceed 43 degrees C (110 degrees F). As per manufacturer's recommendation, the material is suitable for use at this temperature, because the actual heat distortion temperature, i.e. the point at which physical properties will significantly decrease, is slightly greater than 43 degrees C (110 degrees F.) This product is covered under the Product Design Assessment Certificate 00-HS174530-PDA

STANDARDS

ABS Rules:

Government Authority:

International:

National:

Others:

Manufacturer's Production Standards



Refer to: JP/T-8-6
File Ref: P-45021
Ref: 174530/182666

6 July, 2000
(Revised 24 July 2000)

ITW Philadelphia Resins' Phillybond Orange
to be used to seal exposed edges of epoxy chocking compounds in stern tube applications

Type Approval - Certification

ITW Philadelphia Resins
130 Commerce Drive
Montgomeryville, PA 18936

Attention: Mr. Bruce S. Shipley
Technical Manager

Gentlemen:

We have received your application for type approval dated 19 May 2000 together with the appropriate enclosures and are pleased to advise that we have completed the design review phase of the type approval process.

We advise you contact Mr. Patrick E. Finley, Senior Surveyor of our Philadelphia Office at 856-354-6366/9246 at your convenience to arrange for the plant survey phase.

Please find enclosed our invoice to cover the cost of the design review phase of the type approval process and first year entry in the Bureau's List of Type Approved Equipment.

We look forward to the inclusion of your product, pending a satisfactory plant survey, in our Type Approval Program which will be listed as per the Attachment.

If you should have any comments relative to the proposed listing of your product or if we can be of any further assistance, please do not hesitate to contact us.

Very truly yours,

A handwritten signature in black ink, appearing to read "John B. Hagan".

John B. Hagan
Principal Engineer
Engineering Services Department

cc: Coordinator of ABS Programs (R.J. Vienneau - Houston)
ABS Philadelphia
Manufacturer's File (T-8-3) (ITW Philadelphia Resins)

PS: Recently, the ABS Type Approval Program was changed. We now issue a Product Design Assessment (PDA) Certificate after our review is completed. Enclosed is the PDA Certificate for your product reflecting this change as well as the revised Comment c) of our type approval letter of 6 July 2000 as requested by your telefax of 11 July 2000.