



# Golten's

Singapore Pte Ltd



## TRUSTED GLOBALLY

Your Independent Chockfast Specialist

**Chockfast**<sup>®</sup>

**Chockfast**<sup>®</sup>

**Chockfast**<sup>®</sup>

**Devcon**<sup>®</sup>

**AMERICAN SAFETY**  
TECHNOLOGIES

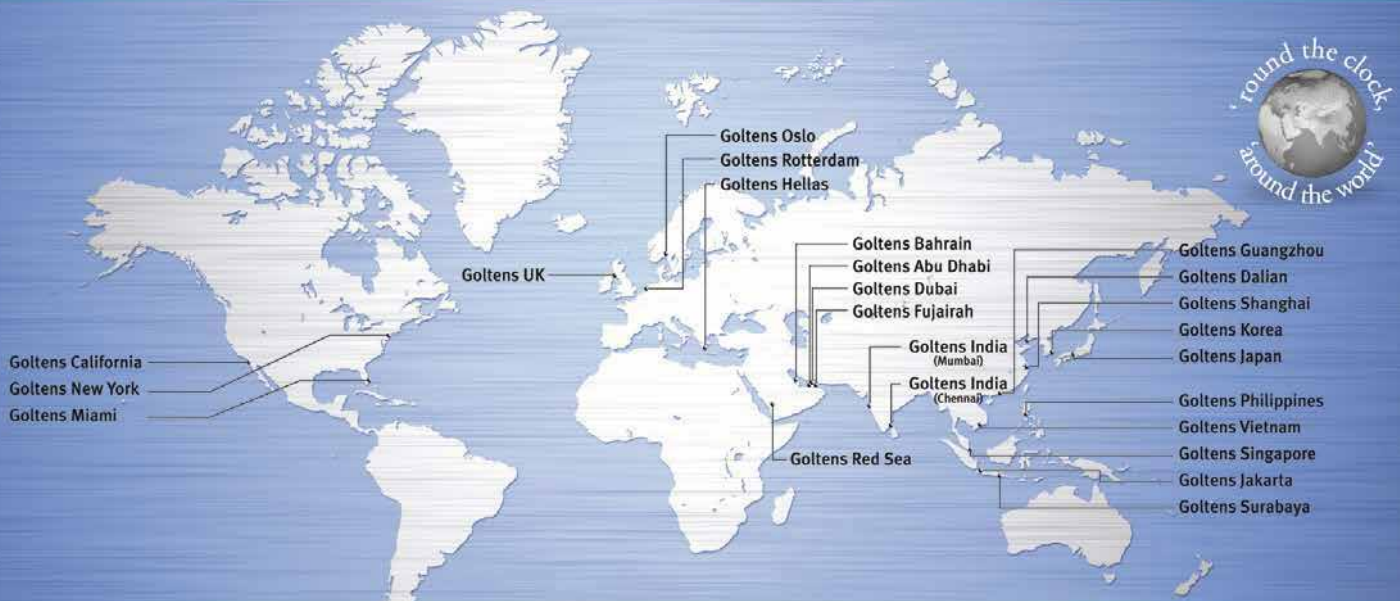




**GOLTENS SINGAPORE PTE LTD**

6A Benoi Road  
 Singapore 629881  
 Phone : +65-6861 5220  
 Fax : +65-6861 1037  
 E-mail : singapore@goltens.com

# Goltens *Worldwide Network*



[www.goltens.com](http://www.goltens.com)

**Americas**

California  
 New York  
 Miami

**Europe**

United Kingdom  
 Oslo  
 Rotterdam  
 Hellas

**Middle East & India**

Fujairah  
 Bahrain  
 Abu Dhabi  
 Saudi Arabia  
 Dubai  
 India (Mumbai)  
 India (Chennai)

**S. E. Asia**

Philippines  
 Vietnam  
 Singapore  
 Jakarta  
 Surabaya

**Far East**

Guangzhou  
 Dalian  
 Shanghai  
 Korea  
 Japan

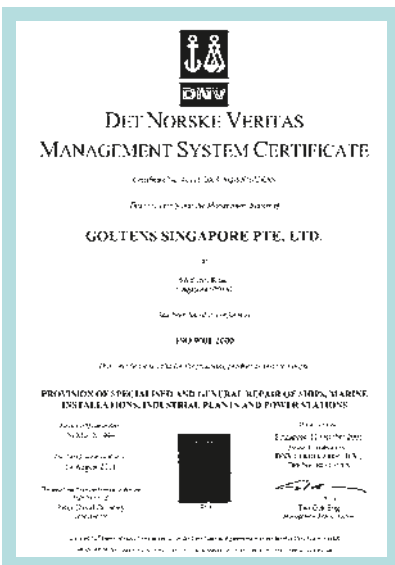
**“Round the Clock,  
around the World”**

# Our Mission

Goltens is committed to provide quality products and services to our customers and has long since been recognized by major fleet customers worldwide as the preferred provider of high quality products to vessels around the world.

Being an authorized distributor for many leading suppliers and manufacturers worldwide, we now provide an extensive range of ship equipment, systems and engine spares to shipowners which are customized according to their requirements.

With our vast knowledge and experience in the marine industry, we are in a strong position to supply original equipment that supports customers from project inception to new building and through the life of the vessel. This is why our broad customer base choose to work with us.



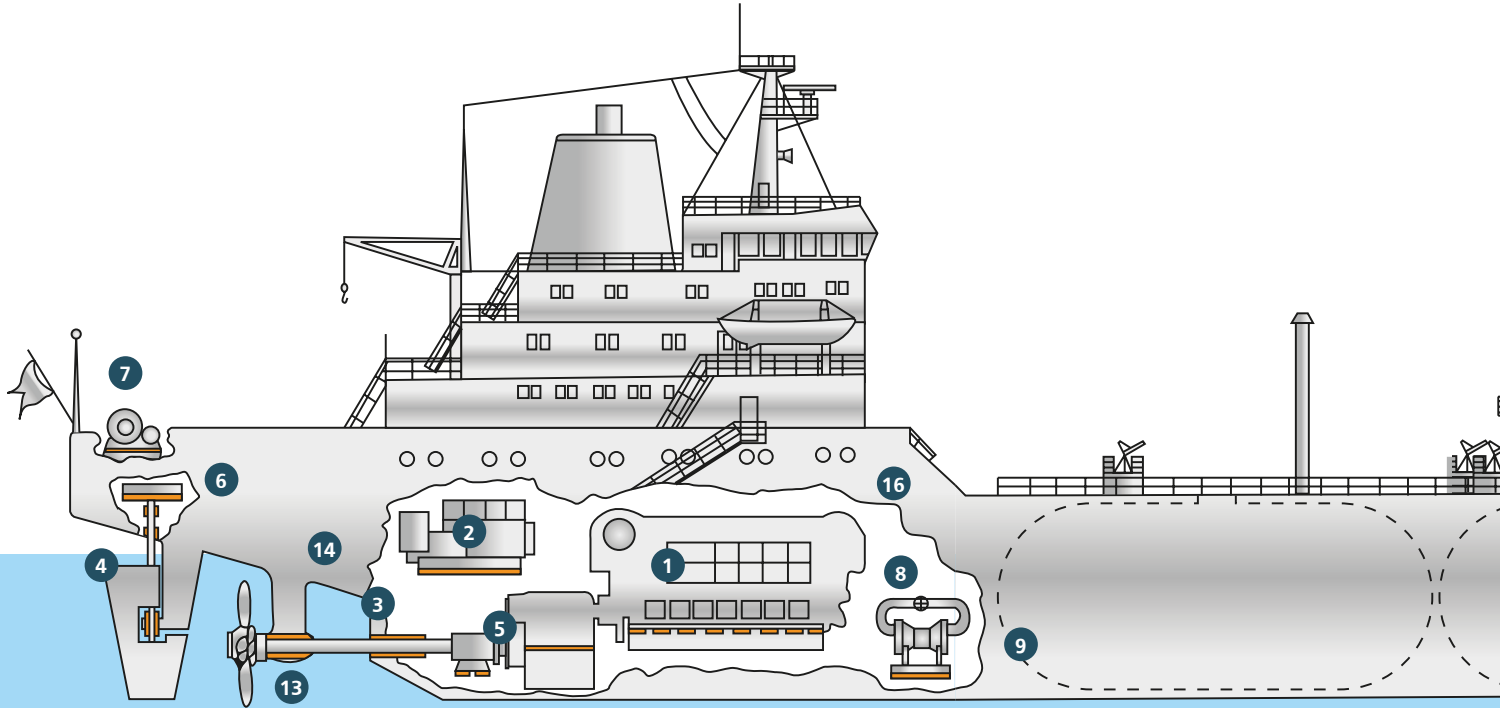
# Contents

---

Vessel layout	2–3
Chockfast® Orange	4–6
Chockfast® Gray	7–9
Chockfast® Red /Chockfast® Red SG	10–13
Phillybond Orange	14
Repair Compound	15
Phillyclad 1775 / 620TS	16–17
PhillyMastic	18–19
Devcon Titanium	20
Devcon Brushable Ceramic Red/Blue	21
Devcon Flexane 80 Putty	22
AST Anti-Slip Coatings	23
Range of Products	24
Classification Type Approval	25

---

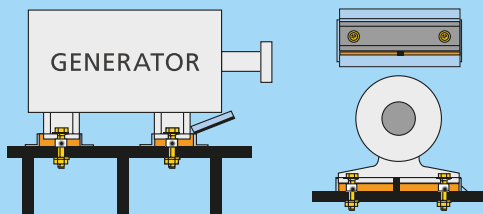
# Vessel Layout



## 1 Main Engine Propulsion

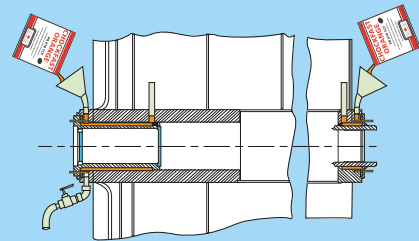
- i. Chockfast® Orange Application – Chocks engines and gears without foundations or chock machining
- ii. Prevent corrosion, fretting and engine movement
- iii. Reduces weight
- iv. Approved by all major manufacturers and regulatory agencies. Passes MIL-S-901C High Impact Shock Test.

## 2 Generators & Auxiliary Equipment



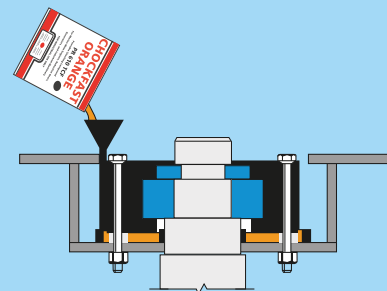
Chockfast® Orange Application – used by shipbuilders throughout the world to simplify the installation of generators and a wide range of auxiliary equipment, installed above or below decks, by eliminating all foundation machining.

## 3 Stern Tube & Strut Bearings

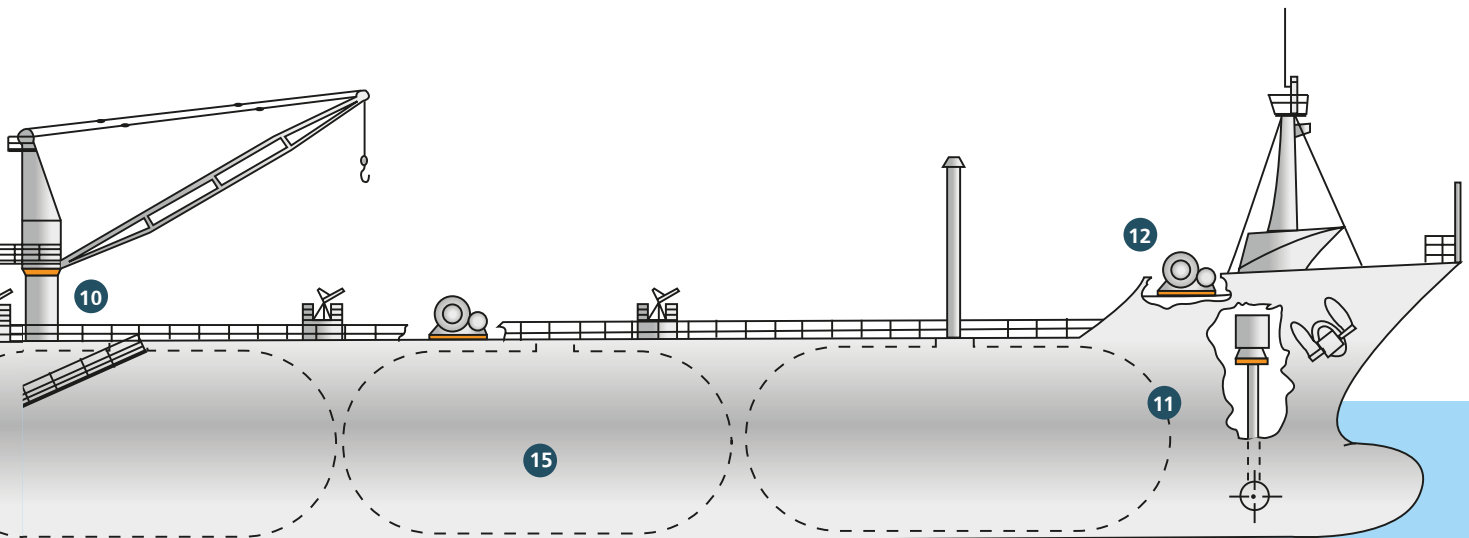


Chockfast® Orange Application – by installing oil – or water – lubricated bearings in Chockfast Orange sleeves, hull boring and press fittings are eliminated, and precise alignment is assured. Sterntube bearings can be sealed with Phillybond Orange flexible sterntube sealant.

## 4 Pintle & Rudder Bearings



Chockfast® Orange Application – Any bearing normally pressed into a housing can be installed quickly and accurately with Chockfast® Orange – without boring.



**5 Pedestal Bearings**

**6 Steering Gears**

**7 Stern Winches \***

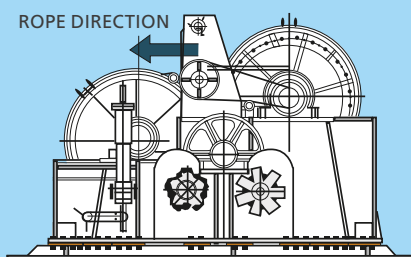
**8 Engine-Room Pumps**

**9 Cargo Pumps**

**10 Large Ball or Roller Bearings**

**11 Bow Thrusters**

**12 Anchor Windlasses \***



**13 Propeller Shafts**

- i. PhillyClad 1775/620TS Application – a transparent epoxy/ fiberglass coating, provides a durable corrosion protection for exposed propeller shafts
- ii. Meets MIL Spec MIL-R-23461
- iii. Classification Society approved

**14 Hull and Rudder Fairing**

- i. ITW Repair Compound Application – Used on all hull and superstructure surfaces for filling, smoothing and fairing
- ii. Non – Sagging
- iii. Excellent adhesion
- iv. Fine Finish
- v. Meets DOD – C – 24176

**15 LNG/LPG Tank Mounting**

- i. Phillymastic TG-7B Application – Available as liquid or trowelable/pumpable mastic
- ii. Provides excellent load bearing and adhesive properties at ambient and cryogenic temperatures
- iii. Approved by major tank and containment designers and regulatory agencies

**16 Crane Rail Installations**

- i. Chockfast® Gray Application – Setting crane rails on steel or concrete foundations is greatly simplified with Chockfast® Gray
- ii. Shipboard or shoreside advantages include continuous support and the elimination of foundation machining, steel chock fitting and / or leveling plates, and corrosion

\* Suitable for Chockfast® Gray application

# CHOCKFAST® ORANGE

## PRODUCT DESCRIPTION

CHOCKFAST® ORANGE (PR-610TCF) is a specially formulated 100% solids, two component inert filled casting compound developed for use as a chocking or grouting material. CHOCKFAST® is designed to withstand severe marine and industrial environments involving a high degree of both physical and thermal shock. The compound is non-shrinking and has very high impact and compressive strength.

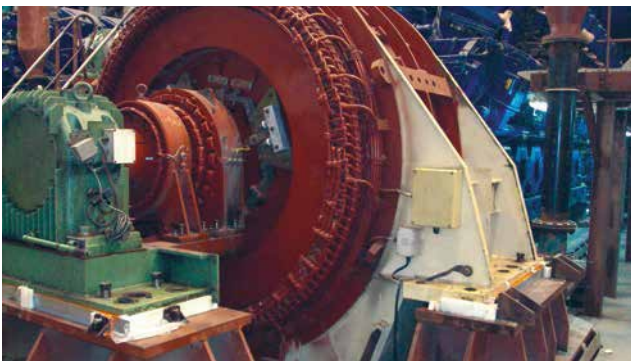
## USE & BENEFITS

CHOCKFAST® ORANGE was developed as a chocking or grouting compound for use under marine main propulsion machinery in depths of ½" to 4" (12mm to 100mm). The compound is mainly used for diesel and gas engines, reduction gears, generators, compressors, pumps, bearing blocks, crane rails and numerous other applications.

When cast, CHOCKFAST® ORANGE flows readily into the chock area filling voids and conforming to all irregularities. This eliminates the machining of base plates or foundations for a perfectly fitted chock.



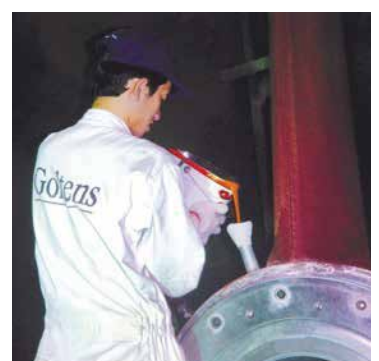
Chockfast® application on Auxiliary Engine



Chockfast® application on 48 ton Alternator



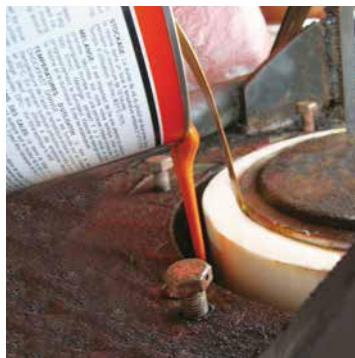
Chockfast® application on Main Engine



Chockfast® application on Stern Tube



Chockfast® application on 150 ton Sulzer 16V ZAL 40 Main Engine

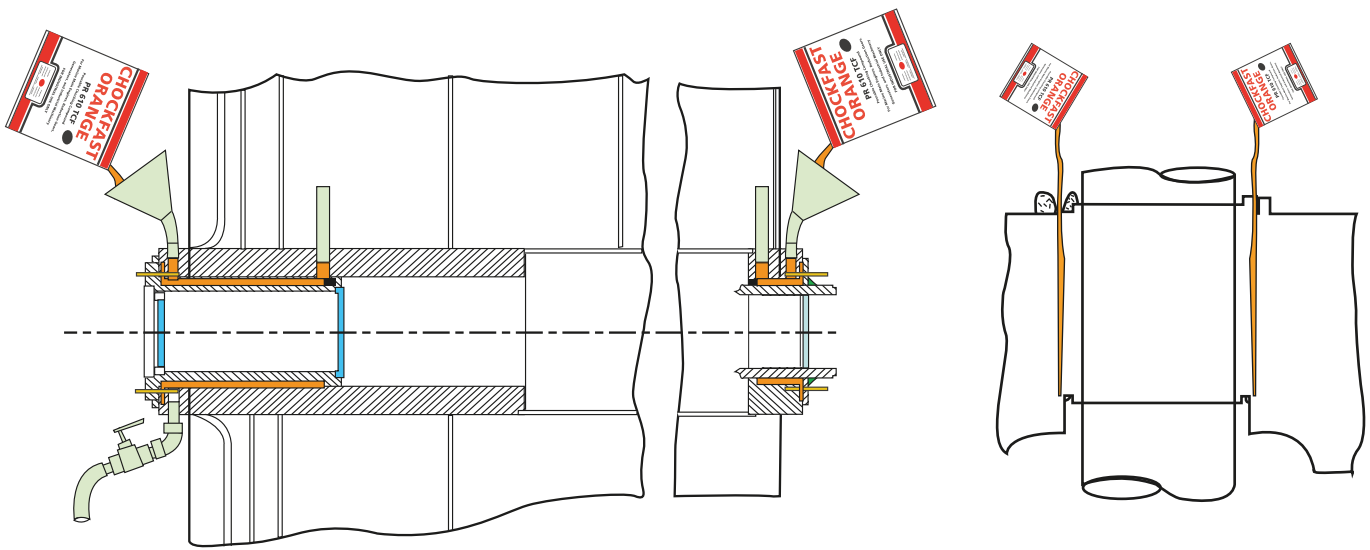


Chockfast® application on Rudder Bushing

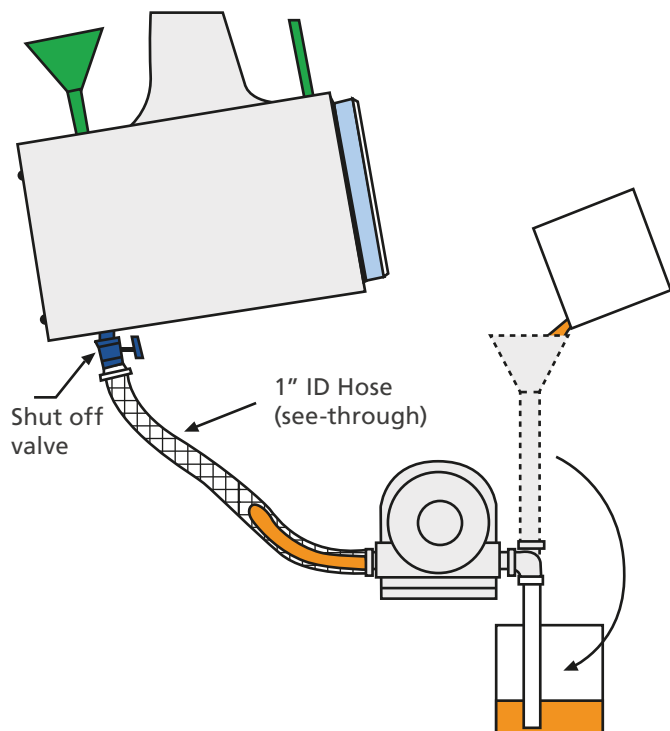


Chockfast® application on Motor Foundation

## STERN TUBE CHOCKING

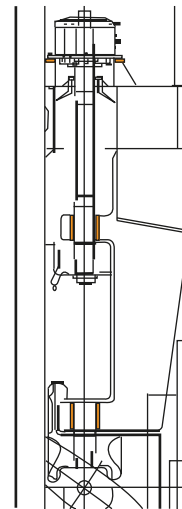


## PUMPING STRUT BEARING



1. Prime the pump by turning the suction pipe up, filling it with Chockfast and running the pump

2. Rotate suction quickly into the can of Chockfast after priming





## PHYSICAL PROPERTIES

<b>COMPRESSIVE STRENGTH</b>	19,000 psi (1,336 kg/cm <sup>2</sup> )	ASTM D-695MOD
<b>COMPRESSIVE MODULUS OF ELASTICITY</b>	533,000 psi (37,482 kg/cm <sup>2</sup> )	ASTM D-695
<b>LINEAR SHRINKAGE</b>	0.0002 in/in (0.0002 mm/mm) or 0.02%	ASTM D-2566
<b>COEFFICIENT OF LINEAR THERMAL EXPANSION</b>	17.1 x 10 <sup>-6</sup> /F° @ 32°F to 140°F (30.8 x 10 <sup>-6</sup> /C° @ 0°C to 60°C)	ASTM D-696
<b>FLEXURAL STRENGTH</b>	7,615 psi (575 kg/cm <sup>2</sup> )	ASTM C-580
<b>FLEXURAL MODULUS OF ELASTICITY</b>	8.6 x 10 <sup>5</sup> psi (72,880 kg/cm <sup>2</sup> )	ASTM C-580
<b>TENSILE STRENGTH</b>	4,970 psi (349 kg/cm <sup>2</sup> )	ASTM D-638
<b>SHEAR STRENGTH</b>	5,400 psi (380 kg/cm <sup>2</sup> )	FED-STD-406 (Method 1041)
<b>IZOD IMPACT STRENGTH</b>	6 in.lbs/in. (0.27 N.m/cm)	ASTM D-256
<b>SHOCK RESISTANCE</b>	Pass MIL-S-901C (Navy) High Impact Shock Test, Grade A, Type A, Class 1	
<b>THERMAL SHOCK</b>	Pass 18°C to 100°C	ASTM D-746
<b>VIBRATION</b>	Meets MIL-STD-167	
<b>FIRE RESISTANCE</b>	Self extinguishing	ASTM D-635
<b>SPECIFIC GRAVITY</b>	1.58	
<b>BARCOL HARDNESS</b>	40+ fully cured – 35 minimum	ASTM D-2583

## PRODUCT INFORMATION

<b>UNIT COVERAGE</b>	<b>Small Unit:</b> 120 cu.in (1,966 cc)  <b>Large Unit:</b> 260 cu.in (4,261 cc)
<b>APPLICATION TEMPERATURE</b>	55°F (13°C) to 95°F (35°C)
<b>PACKAGING per Unit</b>	<b>Small Unit:</b> Resin (NH) – 7.2 lbs (3.3 kg), 0.53 gal (2 L) in a 1 gal can, Hardener (H) – 0.5 lbs (0.23 kg), 7.7 oz (0.23 L) in an 8 oz plastic bottle  <b>Large Unit:</b> Resin (NH)– 14.4 lbs (6.5 kg), 0.53 gal (2 L) in a 1 gal can, Hardener (H) – 0.99 lbs (0.45 kg), 15.4 oz (0.23 L) in an 16 oz plastic bottle
<b>UNIT SHIPPING WEIGHT</b>	<b>Small Unit:</b> 9 lbs (4 kg)  <b>Large Unit:</b> 17 lbs (7.7 kg)
<b>CURE TIME (approximate)</b>	48 hours @ 60°F (15°C) 36 hours @ 65°F (18°C) 24 hours @ 70°F (21°C) 18 hours @ 80°F (26°C)
<b>POT LIFE</b>	30 min. @ 70°F (21°C)
<b>SHELF LIFE</b>	2 years
<b>CLEAN UP</b>	IMPAX IXT-59 or similar epoxy solvent

# CHOCKFAST® GRAY

## PRODUCT DESCRIPTION

Chockfast® Gray (PR-610FR) is a 100% solids, two component, inert filled compound developed for use in chocking non-precisely aligned equipment or in setting anchor bolts in concrete. It is designed to withstand severe marine and industrial environments involving a high degree of both physical and thermal shock. The compound is non-shrinking, non-burning and has a very high impact and compressive strength.

## USE & BENEFITS

CHOCKFAST® GRAY was developed as a chocking compound for use under marine deck machinery, pumps, generators and steering gears. Industrially, the compound is used under diesel engines, generators, compressors, pumps, turbines, bearing blocks, crane rails and numerous other applications. It is also used extensively in the setting of anchor bolts into concrete.

The compound is also completely chemical and oil resistant, will not powder or crack with age, weathering, or freeze-thaw cycling, and will seal the mounting surfaces protecting them from deterioration.

Other successful applications of CHOCKFAST® GRAY include mounting of crane rails, chocking of crane bull gears, chocking of machine shop machinery, sealing of cable penetrations, and as a filler to dampen machinery vibrations.



P' Bracket filled with Chockfast®



Chockfast® application on main deck machinery

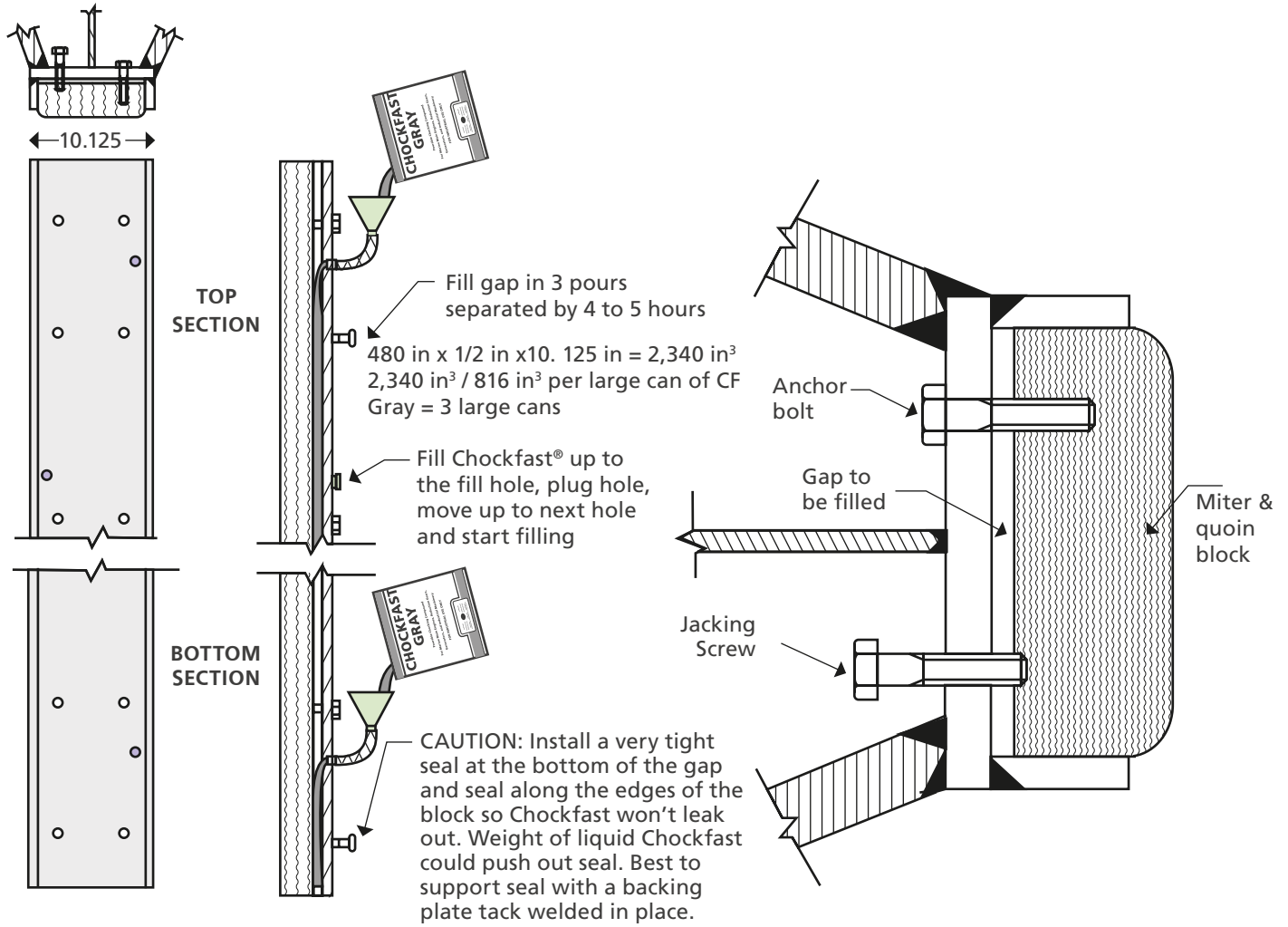


Anchor Windlass aligned and chocked with Chockfast®

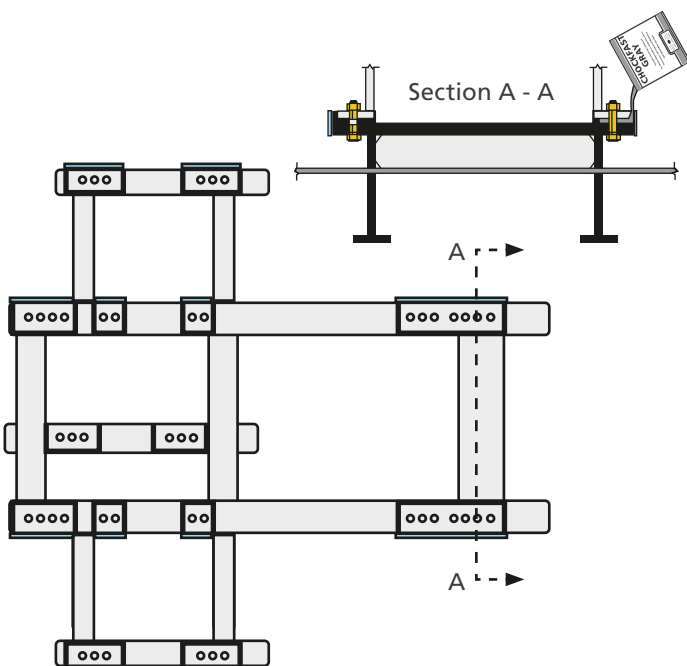


Towing Winch foundation on Chockfast®

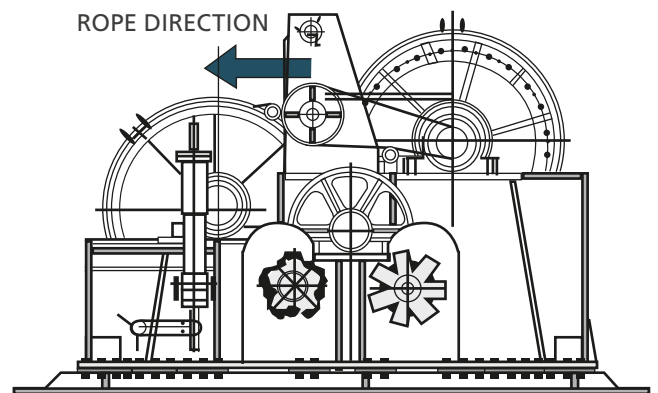
## DOCK GATE CHOCKING



## TOWING WINCH CHOCKING



## ANCHOR WINDLASS



## PHYSICAL PROPERTIES

<b>COMPRESSIVE STRENGTH</b>	16,000 psi (1,125 kg/cm <sup>2</sup> )	ASTM C-695
<b>COMPRESSIVE MODULUS OF ELASTICITY</b>	520,000 psi (36,568 kg/cm <sup>2</sup> )	ASTM C-695
<b>LINEAR SHRINKAGE</b>	0.0003 in/in (0.0003 mm/mm)	ASTM D-2566
<b>COEFFICIENT OF LINEAR THERMAL EXPANSION</b>	16.8 x 10 <sup>-6</sup> /F° @ 32°F to 140°F (30.3 x 10 <sup>-6</sup> /C° @ 0°C to 60°C)	ASTM D-696
<b>FLEXURAL STRENGTH</b>		ASTM C-582
<b>FLEXURAL MODULUS OF ELASTICITY</b>		ASTM C-582
<b>TENSILE STRENGTH</b>	4,000 psi (281 kg/cm <sup>2</sup> )	ASTM D-638
<b>IZOD IMPACT STRENGTH</b>	7.2 in.lbs./in. (0.32 N-m/cm)	ASTM D-256
<b>FIRE RESISTANCE</b>	Self-extinguishing	ASTM D-635
<b>SERVICE TEMPERATURE</b>	Up to 52°C (125°F)	ASTM D-746
<b>VIBRATION RESISTANCE</b>	Pass 33 cps @ 0.02 in. (0.51mm) amplitude Total cycles 237,600	
<b>THERMAL SHOCK RESISTANCE</b>	Pass 20°F to 200°F (-6.5°C to + 93°C)	
<b>CORROSION RESISTANCE</b>	Pass FTM 151A @ 96 hrs 0.5% NaCl 96°F (35°C) Fog	
<b>SPECIFIC GRAVITY</b>	1.82	
<b>HARDNESS</b>	35–40	ASTM D-2583

## PRODUCT INFORMATION

<b>UNIT COVERAGE</b>	<b>Small Unit:</b> 187 cu.in. (3.06 liters)
	<b>Large Unit:</b> 816 cu.in. (13.37 liters)
<b>APPLICATION TEMPERATURE</b>	55°F (13°C) to 95°F (35°C)
<b>UNIT WEIGHT</b>	<b>Small Unit:</b> Resin (NH) – 12.5 lbs (5.6 kg), 0.76 gal (2.9 L) in a 1 gal can, Hardener (H) – 0.6 lbs (0.3 kg), 0.3 L (9 oz) in an 8 oz plastic bottle
	<b>Large Unit :</b> Resin (NH) – 53.5 lbs (24.3 kg), 3.2 gal (12 L) in a 5 gal bucket, Hardener (H) – 2.6 lbs (1.2 kg), 40 oz (1.2 L) in a ½ gal can
<b>UNIT SHIPPING WEIGHT</b>	<b>Small Unit:</b> 13 lbs (5.9 kg)
	<b>Large Unit:</b> 56 lbs (25.5 kg)
<b>CURE TIME (approximate)</b>	18 hrs. @ 85°F (30°C) 24 hrs. @ 65°F (18°C)
<b>POT LIFE</b>	30 min. @ 70°F (21°C)
<b>SHELF LIFE</b>	18 Months
<b>CLEAN UP</b>	Impax IXT-59 Solvent or equal

# CHOCKFAST® RED – A DEEP-POUR EPOXY GROUT

## PRODUCT DESCRIPTION

CHOCKFAST® Red is a three-component, high strength, 100% solids, epoxy grouting compound used to grout large machinery and to support soleplates in all types of foundations. CHOCKFAST® Red has an extremely high compressive strength. This along negligible shrinkage makes it ideal for installing critically aligned machinery within very close tolerances.

## USE & BENEFITS

CHOCKFAST® Red has the following advantages when compared to conventional cement grouts:

- Impervious to oil
- Cures at least three times as quickly
- No mixing ratios to measure
- Grouts machinery in final aligned position
- High physical strength
- High impact strength
- Resistance to many more chemicals
- Strong bond to metal and concrete
- Unaffected by weathering and freeze / thaw cycling
- Stated physical properties assured
- Superior resistance to fatigue



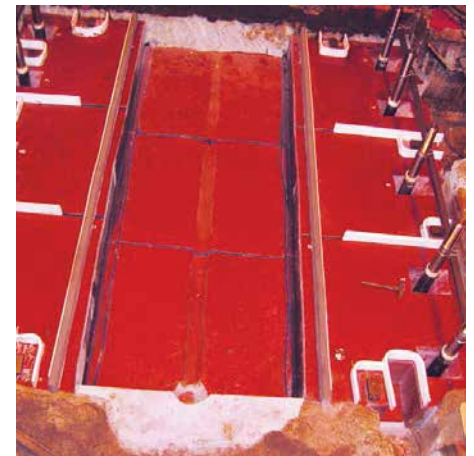
Re-grout of poorly aligned Pump, now on Chockfast®



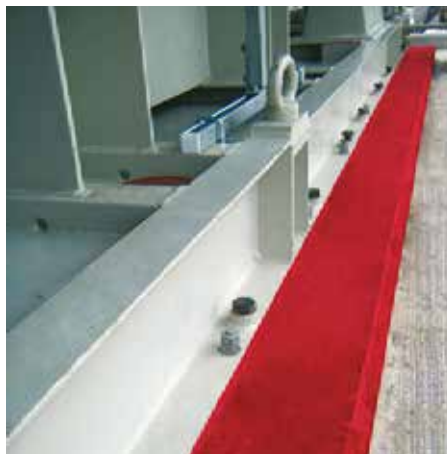
Single deep pour minimizes downtime, while Chockfast® effectively damp vibration



Chockfast® provides the best solution to long term performance to the turbine compressor



Generator foundation, Chockfast® is poured over underlying concrete



Skid mounted compressor with Chockfast®



Skid module pre grouted with Chockfast®



Low dust aggregates with Chockfast® simplifies installation and cleanup procedures



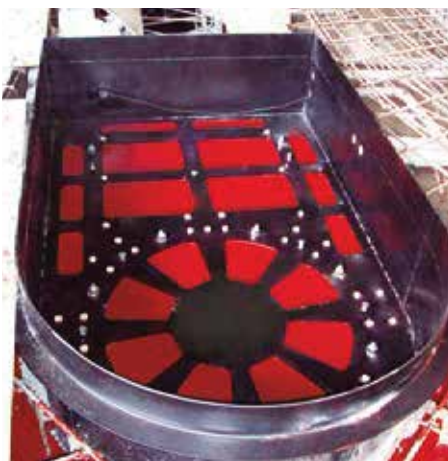
Cube sample taken on Chockfast® for testing



Surface preparation prior to grouting



Chockfast® installation



Baseplate mounted on Chockfast® provide excellent vibration damping for static and dynamic load



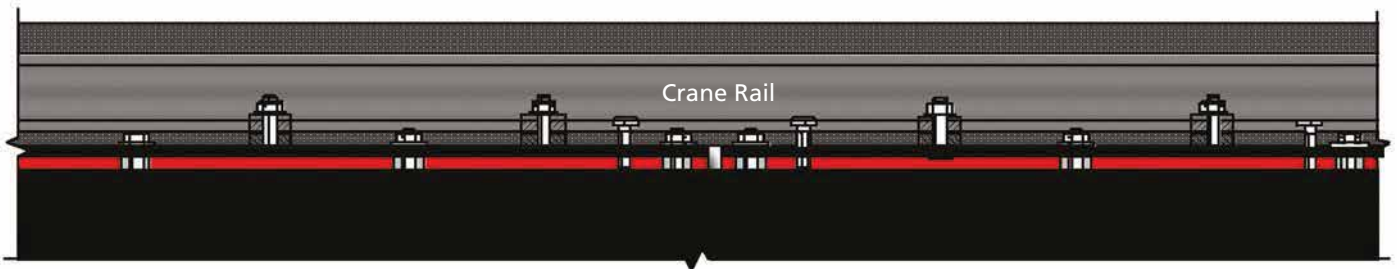
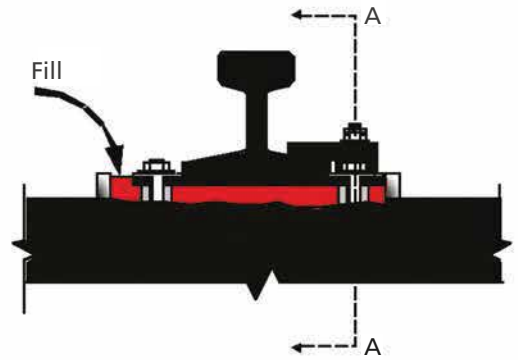
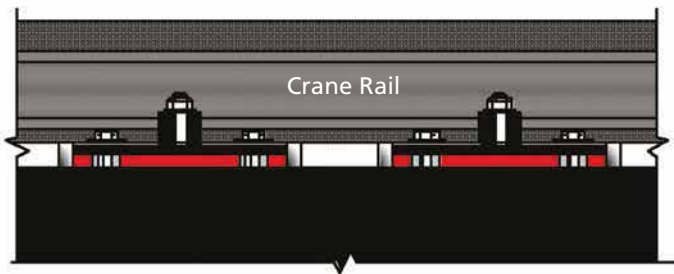
Motor supported on deep pour Chockfast®



High speed Motor skid mounted on Chockfast®

## CRANE RAIL CHOCKING

Individual Sole Plate Mounting  
Section A - A



Continuous Sole Plate Mounting  
Section A - A

Crane rail installation with Chockfast® eliminates expensive, corrosion prone leveling plates

## PHYSICAL PROPERTIES

<b>COMPRESSIVE STRENGTH</b>	15,250 psi (1,072 kg/cm <sup>2</sup> )	ASTM C-579 MOD
<b>COMPRESSIVE MODULUS OF ELASTICITY</b>	2,000,000 psi (140,600 kg/cm <sup>2</sup> )	ASTM C-579 MOD
<b>LINEAR SHRINKAGE</b>	Not Measurable	ASTM D-2566
<b>COEFFICIENT OF LINEAR THERMAL EXPANSION</b>	11.2 x 10 <sup>-6</sup> /F° @ 32°F to 140°F (20.1 x 10 <sup>-6</sup> /C° @ 0°C to 60°C)	ASTM D-696
<b>FLEXURAL STRENGTH</b>	4,025 psi (283 kg/cm <sup>2</sup> )	ASTM C-580
<b>FLEXURAL MODULUS OF ELASTICITY</b>	2,000,000 psi (140,600 kg/cm <sup>2</sup> )	ASTM C-580
<b>TENSILE STRENGTH</b>	1,890 psi (133 kg/cm <sup>2</sup> )	ASTM D-638
<b>IZOD IMPACT STRENGTH</b>	4.6 in.lb/in. (0.02 N.m/mm)	ASTM D-256
<b>SERVICE TEMPERATURE</b>	Up to 140°F (60°C)	
<b>FIRE RESISTANCE</b>	Self extinguishing	ASTM D-635
<b>SPECIFIC GRAVITY</b>	2.06	

## PRODUCT INFORMATION

<b>UNIT COVERAGE</b>	1.6 ft <sup>3</sup> or 2,765 in <sup>3</sup> (45.3 Liters)
<b>APPLICATION TEMPERATURE</b>	55°F (13°C) to 95°F (35°C)
<b>UNIT PACKAGING</b>	<b>Resin (NH):</b> 1.6 gal (6.1 L) in a 3 gal pail <b>Hardener (NH):</b> 0.9 gal (3.5 L) in a plastic tray Inserted into the top of the resin can <b>Aggregate:</b> (4) 46 lbs (21 kg) bags
<b>UNIT WEIGHT</b>	<b>Resin:</b> 15.4 lbs (7 kg) <b>Hardener:</b> 7.6 lbs (3.4 kg) <b>Aggregate:</b> 184 lbs (84 kg)
<b>SHIPPING WEIGHT</b>	207 lbs (94 kg)
<b>CURE TIME (approximate)</b>	54 hours @ 60°F (16°C); 36 hours @ 72°F (21°C) 24 hours @ 27°C (80°F); 18 hours @ 32°C (90°F)
<b>POT LIFE</b>	Approximately 3 hours @ 21°C (70°F)
<b>SHELF LIFE</b>	2 years in dry storage
<b>CLEAN UP</b>	Water or IMPAX IXT-59 or similar epoxy solvent



Industrial compressor motor with Chockfast®



# PHILLYBOND ORANGE – FLEXIBLE STERN TUBE SEALANT

## PRODUCT DESCRIPTION

PHILLYBOND ORANGE is a two component, epoxy paste, developed for sealing exposed edges of CHOCKFAST in stern tube applications. It is resistant to sea water and lubricating oils. It has good adhesive strength and flexibility over a wide temperature range. Because of its paste-like consistency, it can be applied in thick, vertical applications without sagging, yet is easy to trowel and provide a smooth finished surface.

## USE & BENEFITS

Excellent for sealing any type of gap where both mechanical and thermal expansion and contraction will take place. It adheres well to steel, brass, and other epoxies and epoxy chocking materials.



Phillybond orange provides water tight integrity on stern tube application

## PHYSICAL PROPERTIES

<b>TENSILE STRENGTH</b>	45 kg/cm <sup>2</sup> (640 psi)	ASTM D-638
<b>ADHESIVE STRENGTH</b>	On Steel – 40 kg/cm <sup>2</sup> (567 psi) On Brass – 35 kg/cm <sup>2</sup> (500 psi) On CHOCKFAST Orange – 39.5 kg/cm <sup>2</sup> (563 psi)	
<b>LAP SHEAR ON STEEL</b>	30 kg/cm <sup>2</sup> (424 psi)	ASTM D 1002
<b>ELONGATION</b>	37.5%	
<b>VISCOSITY, MIXED</b>	464 000 cps (Paste Consistency)	
<b>MIXING RATIO</b>	By Volume 1:1	

## PRODUCT INFORMATION

<b>COLOR</b>	Resin – Orange Hardener – Amber Mixed – Orange
<b>POT LIFE</b>	3 hours at 70°F (21°C)
<b>CURE TIME</b>	36 hours at 70°F (21°C) – Gel 5 hours 48 hours at 60°F (15°C) – Gel 7 hours
<b>SHELF LIFE</b>	2 years
<b>PACKAGING</b>	Resin (NH): 4.6 lbs (0.46 gal) Hardener (H): 3.8 lbs (0.44 gal)
<b>UNIT WEIGHT</b>	Shipping Wt. 13 lbs (5.9 kg) 3.8 liters (1 gal) unit

# REPAIR COMPOUND

## PRODUCT DESCRIPTION

ITW Polymer Technologies' REPAIR COMPOUND is a two component epoxy paste developed specifically for filling, smoothing and fairing applications on metals, plastics (FRP), wood or masonry. The smooth consistency and excellent non-sagging properties of REPAIR COMPOUND make it unexcelled for leveling rough or pitted plating, forming fillets, smoothing weld seams, etc. REPAIR COMPOUND is nontoxic and contains no solvents. Resistance to fresh water, salt water, crude and refined oils, gasoline, jet fuel, etc., is excellent.

## USE & BENEFITS

REPAIR COMPOUND is ideal for repairing and preparing surfaces of hulls, storage tanks, sonar domes, etc., for painting, fiberglass applications or rubber lining where all welds, pitting, rough surfaces or irregularities are required to be smoothed. The use of REPAIR COMPOUND provides a tough, uniform surface that will readily accept any top coating or lining.

Its exceptional troweling and application characteristics provide a smooth finished surface. If additional finishing is desirable, the cured epoxy is readily sanded or ground. The excellent feathering properties facilitate achieving a precision surface profile or smoothness.

Pump casings, impellers, sea chests, condenser boxes, etc., are easily and effectively repaired with REPAIR COMPOUND. Additional uses include the fairing of corroded or uneven hull and deck plating, repair of cavitation damage, repair and sealing of riveted seams, etc. REPAIR COMPOUND is ideally suited for fairing around sensitive electrical equipment, as it contains no metal fillers.

## PHYSICAL PROPERTIES

<b>COMPRESSIVE STRENGTH</b>	8,900 psi (623 kg/cm <sup>2</sup> )	ASTM D-695
<b>TENSILE STRENGTH</b>	2,600 psi (183 kg/cm <sup>2</sup> )	ASTM D-638
<b>HARDNESS</b>	65-70 Shore D after 8 hours @ 72°F (22°C) 80-85 Shore D after 24 hours @ 72°F (22°C)	ASTM 4-2240
<b>IZOD IMPACT STRENGTH</b>	5.3 in.lb./in (0.24 Newton meters/cm)	ASTM D-258
<b>SERVICE TEMPERATURE</b>		
<b>SPECIFIC GRAVITY</b>	1.45	

## PRODUCT INFORMATION

<b>COLOR</b>	Resin – Blue Hardener – Cream Mixed – Blue
<b>MIX RATIO</b>	1:1 by Volume
<b>UNIT COVERAGE</b>	25 ft <sup>2</sup> (2.3 m <sup>2</sup> ) @ 1/8 in (3 mm) thick per 2 gallon kit
<b>APPLICATION TEMPERATURE</b>	Above 13°C (55°F)
<b>CURE TIME (approximate)</b>	<b>Sandable:</b> 3 hours @ 72°F (22°C) <b>Hard Cure:</b> 8 hours @ 72°F (22°C) <b>Full Cure:</b> 24 hours @ 72°F (22°C)
<b>POT LIFE</b>	70 min @ 72°F (22°C)
<b>CLEAN UP</b>	IMPAX IXT-59 Epoxy Solvent
<b>UNIT PACKAGING</b>	<b>Resin (NH):</b> 3.2 L (0.84 gal) in a 1 gal can <b>Hardener (NH):</b> 3.6L (0.94 gal) in a gal can
<b>UNIT WEIGHT</b>	<b>Resin:</b> 10.2 lbs (4.6 kg) <b>Hardener:</b> 12.2 lbs (5.5 kg)
<b>SHIPPING WEIGHT</b>	25 lbs (11.3 kg)
<b>SHELF LIFE</b>	One year (closed container)

# PHILLYCLAD – 1775/620TS

## PRODUCT DESCRIPTION

PHILLYCLAD 1775/620TS is an excellent general purpose, nontoxic laminating resin system for FRP application requiring rapid and thorough wet out. Excellent for use as a thin laminate protective coating over steel or wood and fabrication of molded fiberglass structures or components.



Provide the most effective long wearing corrosive protection for Shaft Propeller





Checking on the Shaft surfaces to ensure even lamination

## PHYSICAL PROPERTIES

<b>COLOR</b>	Clear amber
<b>CURE TIME</b>	24 hours @ 22°C (72°F)
<b>% ELONGATION</b>	30% – ASTM D-638
<b>FLEXURAL MODULUS</b>	8050 kg/cm <sup>2</sup> (1.15 x 10 <sup>6</sup> psi) – ASTM D-790
<b>FLEXURAL STRENGTH</b>	366 kg/cm <sup>2</sup> (5,200 psi) – ASTM D-790
<b>MIXING RATIO</b>	4:3 by Volume 4.67:3 by Weight
<b>SPECIFIC GRAVITY</b>	1.08
<b>NET WEIGHT per 3.8 LITER (1 GAL) UNIT</b>	9 lbs (4.1 kg)
<b>PACKAGING</b>	3.8 liters (1 gallon) Unit
<b>POT LIFE</b>	40 minutes @ 22°C (72°F) 3.8 liters (1 gallon) batch
<b>SHELF LIFE</b>	2 years
<b>TENSILE STRENGTH</b>	285 kg/cm <sup>2</sup> (4,050 psi) – ASTM D-638
<b>VISCOSITY</b>	1,800-2,000 cps @ 22°C (72°F)



Specialists providing an excellence application skill



When applied with fiberglass tape, Phillyclad has the ability to withstand hydrostatic pressure

# PHILLYMASTIC TG-7B



New Ethylene tank ready for Phillymastic installation onboard

## PRODUCT DESCRIPTION

Phillymastic TG-7B is a two-component, load-bearing, epoxy mastic specifically developed for LNG/LPG tank or container system installations where shimming or void-filling of supporting components is required. TG-7B provides excellent load-bearing and adhesive properties at cryogenic temperatures assuring evenly distributed loads across all tank supports. Available in either pourable liquid or a trowelable paste.

## USE & BENEFITS

Phillymastic TG-7B liquid is most frequently used to install LPG storage tanks into ship hulls. In this type of installation, the tank is supported on individual pedestals by wood insulation blocks. The thickness of TG-7B depends on the insulation requirements. Phillymastic a TG-7B load-bearing capability eliminates the need for fitting the wood blocks to precisely conform to the tank surface.

TG-7B paste is a non-sagging material that is most often applied by trowel on top of curved tank cradles before the tanks are set in position. This mastic is designed to accommodate the thermal expansion requirements of cylindrical tanks and contributes to the cumulative K Factor.



Phillymastic paste application on tank support



Specialists checking on the thickness of the Phillymastic prior to tank installation

## PHYSICAL PROPERTIES AT 20°C (68°F) UNLESS OTHERWISE STATED

<b>COMPRESSIVE STRENGTH</b>	20°C (68°F) – 70.3 MPa (10,200 psi)
<b>COMPRESSIVE MODULUS OF ELASTICITY</b>	4,192 MPa (6.08 x 10 <sup>5</sup> psi)
<b>COEFFICIENT OF LINEAR THERMAL EXPANSION</b>	29 x 10 <sup>-6</sup> mm/°C (0.63 x 10 <sup>-7</sup> in/°F)
<b>SHRINKAGE</b>	0.2% by Volume
<b>ADHESIVE BOND TO STEEL</b>	8.5 MPa (1,230 psi)
<b>ADHESIVE BOND TO BIRCH PLYWOOD</b>	2.6 MPa (387.3 psi)
<b>CREEP TEST OBSERVATIONS</b>	0.011 to 0.053 inch/inch after 120 hours at 300 psi
<b>LAP-SHEAR STRENGTH</b>	3.6 MPa (515 psi) – 100% wood substrate failure
<b>TENSILE ELONGATION</b>	0.7% at failure
<b>HARDNESS</b>	24 Barcol
<b>SPECIFIC GRAVITY</b>	Paste – 1.6; Liquid – 1.66
<b>VISCOSITY – LIQUID TG-7B</b>	Resin – 54,400 cps; Liquid – 48 cps; Mixed – 1,440 cps

## PRODUCT INFORMATION

<b>COVERAGE</b>	<b>Paste:</b> 15,900 cm <sup>3</sup> (970 in <sup>3</sup> ) -15.9 liter kit; 208,000 cm <sup>3</sup> (12,693 in <sup>3</sup> ) – 208 liter kit  <b>Liquid:</b> 17,200 cm <sup>3</sup> (1,050 in <sup>3</sup> ) – 17.2 liter kit
<b>MIXING RATIOS</b>	<b>Paste:</b> By Weight: 100g resin to 16.6 g hardener By Volume: 6 parts resin to 1 part hardener  <b>Liquid:</b> By Weight: 100 g resin to 4.9 g hardener By Volume: 11 parts resin to 1 part hardener
<b>CURE TIME (approximate)</b>	20°C (68°F) – 12 days 40°C (104°F) – 3 days 60°C (140°F) – 8 hours
<b>POT LIFE</b>	90 minutes @ 20°C
<b>CLEAN UP</b>	IMPAX IXT-59
<b>PACKAGING PER UNIIT</b>	<b>Paste:</b> 15.9 liters (4.2 gal); 208 liters (55 gal)  <b>Liquid:</b> 17.2 liters (4.6 gal)
<b>UNIT WEIGHT</b>	<b>Paste:</b> 56 lbs (25.4 kg); 734 lbs (334 kg)  <b>Liquid:</b> 63.1 lbs (28.7 kg)
<b>SHELF LIFE</b>	2 years

# Devcon® TITANIUM

## PRODUCT DESCRIPTION

High performance alloy reinforced epoxy putty, engineered to make precision repairs to critical stress bearing equipment. Used to protect new or repaired surfaces from cavitation, erosion and corrosion.

## PHYSICAL PROPERTIES

COLOUR	Grey
MIX RATIO BY VOLUME	3.1:1
MIX RATIO BY WEIGHT	4.3:1
% SOLIDS BY VOLUME	100
POT LIFE AT 25°C/MINS	20
SPECIFIC VOLUME CC/KG	424
CURED SHRINKAGE CM/CM	0.001
SPECIFIC GRAVITY	2.36
TEMPERATURE RESISTANCE/°C DRY	177°C
COVERAGE 848 CM <sup>2</sup> /KG @	5 mm
CURED HARDNESS / SHORE D	87 D
DIELECTRIC STRENGTH KV/MM	2.2
ADHESIVE TENSILE SHEAR / MPa	14
COMPRESSIVE STRENGTH MPa	105
COEFFICIENT OF THERMAL EXPANSION X10 <sup>-6</sup> CM/CM/°C	40
THICKNESS PER COAT / MM	AS REQUIRED
FUNCTIONAL CURE TIME / HOURS	16
RECOAT TIME / HOURS	4
MIXED VISCOSITY /CPS (WHERE APPLICABLE)	PUTTY
PACKING SIZE	1lb & 2lb pack

## RECOMMENDED APPLICATIONS

- Repairing worn pumps, scored shafts, and hydraulic rams
- Rebuilding wear rings, pump impellers, butterfly and gate valves and tube sheets
- Protecting wear plates
- Preventing cavitations to condenser water boxes
- Refitting keyways
- Restoring bearing housings
- Levelling and chocking critical equipment



Devcon. Application on engine block



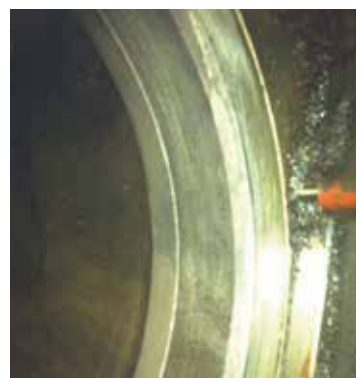
Completion of titanium application awaiting next process



Even corroded tubesheet can be salvage



Devcon. in situ repair on engine block cylinder housing



# Devcon® BRUSHABLE CERAMIC RED/BLUE

## PRODUCT DESCRIPTION

A high performance, high density, ceramic filled, brushable epoxy to seal and protect new or repaired surfaces from cavitation, pitting, erosion and wear.

## PHYSICAL PROPERTIES

COLOUR	Red or Blue
MIX RATIO BY VOLUME	3.4 : 1
MIX RATIO BY WEIGHT	5.6 : 1
% SOLIDS BY VOLUME	100
POT LIFE AT 25°C/MINS	40
SPECIFIC VOLUME CC/KG	633
CURED SHRINKAGE CM/CM	0.002
DENSITY G/CM <sup>3</sup>	1.58
TEMPERATURE RESISTANCE/°C WET	65°C Dry 175°C
COVERAGE 0.633 M <sup>2</sup> /KG @	1 mm
CURED HARDNESS / SHORE	D 90
DIELECTRIC STRENGTH KV/MM	15
ADHESIVE TENSILE SHEAR / MPa	13.75
COMPRESSIVE STRENGTH MPa	105
COEFFICIENT OF THERMAL EXPANSION X10 <sup>-6</sup> CM/CM/°C	34
THICKNESS PER COAT / MM	0.25 - 0.5
FUNCTIONAL CURE TIME / HOURS	24
RECOAT TIME / HOURS	4-6
MIXED VISCOSITY /CPS (WHERE APPLICABLE)	32,000
PACKING SIZE	55lb 2lb & 12lb pack (red/blue)

## RECOMMENDED APPLICATIONS

- Seal and protect new equipment exposed to erosion and corrosion
- Protect pump casings, impeller blades, gate valves, water boxes and fan blades
- Rebuild heat exchangers, tube sheets and other circulation water equipment
- Use it as a topcoat on repaired surfaces to provide an exceptionally smooth surface



Brushable Ceramic promotes lifespan of cylinder liner



Protects against Sulphuric Acid attack on cooler cover



Refurbished impeller blade



Preventive coat on new tubesheet



Excellent craftsmanship & quality by Goltens Personnel





# Devcon® FLEXANE 80 PUTTY

## PRODUCT DESCRIPTION

Trowelable urethane for repairing and lining process equipment exposed to wear, impact, abrasion, vibration, and expansion/contraction.

## PHYSICAL PROPERTIES

COLOUR	Black
COVERAGE/LB	94 sq.in./lb. @ 1/4"
CURED HARDNESS	87A
CURED SHRINKAGE	0.014 in./in.
DEMOLDING TIME	10 hrs
DIELECTRIC STRENGTH	350 volts/mils
FUNCTIONAL CURE	12 hours
MAXIMUM ELONGATION	300%
MAXIMUM OPERATING TEMPERATURE	Dry: 180°F; Wet 120°F
MIX RATIO	72 resin:28 curing agent / wt
MIXED VISCOSITY	Putty
PERCENT SOLIDS BY VOLUME	100
POT LIFE	20 min. @ 75°F
SPECIFIC VOLUME	23.5 in.(3)/lb.
TABER ABRASION	(H-18,dry) 0.238 cc (1000g, 1000 revs)
TEAR RESISTANCE	300 pli
TENSILE STRENGTH	1700 psi
PACKING SIZE	1lb & 4lb pack

## RECOMMENDED APPLICATIONS

- Repair and rebuild conveyor belts
- Line process equipment to dampen noise
- Line concrete control joints
- Cast flexible molds, fixtures, and parts
- Pots and encapsulate



Devcon rubber application on pump cover



In situ repair on pipe



Pipe external coated with Flexane



Conveyor belt repair



Additional preventive coating for new valve



Refurbish damage rubber with Flexane

# AMERICAN SAFETY TECHNOLOGIES ANTI-SLIP COATINGS

## PRODUCT DESCRIPTION

American Safety Technologies Anti-slip Coatings... Costs the same as paint, lasts five times longer. Sand thrown into ordinary floor paint has been the most common treatment against slips and falls, but the protection is short lived. The sand crystals soon begin to break off and lay on top of the surface, exposing you to further slip and fall danger. Continually replacing these worn sand-in-paint surfaces is a hassle and expensive. As any plant manager can tell you, the expense of the prep work far exceeds the cost of the product. Not to mention the several days of down-time you'll suffer during application, after application, after application. AST Anti-Slips Coatings can change all that. They last over 5 times longer than sand-in-paint and other broadcast systems, even when subjected to the most punishing environments. And five times more durability means five times fewer applications, downtime, and expense, as well as five times fewer headaches for you.

## TYPICAL INDUSTRIES

- Food Processing
- Paper Mills
- Heavy Manufacturing
- Bottlers
- Canneries
- Meat Packing
- Poultry Plants
- Shipping & Transportation
- Public Facilities
- Hospital & Nursing Homes
- Railroad & Subway Systems
- Sewage & Treatment Plants
- Breweries
- Theme Parks
- Chemical Plants
- Wineries
- Schools & Public Institutions
- Textile Mills
- Oil Refineries



Ranges of colours available



AST enhance the safety of the staircase



AST can be best applied on slopes



Entire factory floor coated with AST product

## TYPICAL APPLICATIONS

- Loading Docks
- Platform
- Forklift Traffic
- Ramps
- Wet Areas
- Steps
- Aisles
- Walkways
- Around Machinery
- Exits/Entrances
- Splash & Spill Areas
- Vehicle Beds & Step Bumpers
- Chemical Transfer Areas
- Wash Down Areas
- Garages
- Handicap Zones
- Diamond Plate Surfaces
- Areas Exposed To The Elements

**Anywhere Contaminants Fall**



AST prevents slip & fall in bathroom



AST can also apply on wood

# RANGE OF PRODUCTS

## CHOCKFAST ORANGE



## PHILLYBOND ORANGE



## CHOCKFAST GRAY



## PHILLYCLAD 1775 / 620



## CHOCKFAST RED



## REPAIR COMPOUND



## AST ANTI SLIP FLOOR COATING



## DEVCON MRO PRODUCT



# Classification Type Approval

Our approved procedures are recognized by all major Classification Societies as follows:



American Bureau of Shipping (ABS)



Bureau Veritas (BV)



Germanischer Lloyd (GL)



Det Norske Veritas (DNV)



Lloyd's Register (LR)



Nippon Kaiji Kyokai (NKK)



RINA

Rina



Korean Register (KR)



Vietnam Register (VR)