Technical description, Technical data sheet, QuantiCast

Contents:

1. Product description

QuantiCast Chocking Compound is a two-part epoxy chocking system. It is recommended for the installation of main engines and other equipment. It is high compressive strength withstands maximum loads. Typical applications include installation of main engines, drive engines, winches, hoists and deck mounted equipment.

QuantiCast Chocking Compound provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance	Green liquid
Components	Two components - requires mixing
Mix Ratio, (by volume) Resin : Hardener	100 : 11.6
Mix Ratio, (by weight) Resin : Hardener	100 : 6.9
Cure	Room temperature cure
Application	Flooring & grout
Specific Benefits	• Withstands temperatures from -30 °C up to 121 °C • Non-shrinking • Chemical resistant • 100% solids epoxy system • Vibration resistant • Self-levelling • Allows flow into hard-to-reach areas • Application versatility

2. Typical properties of uncured material

Resin (Green):

Viscosity, Brookfield-RVDV 3,25 °C mPa·s (cP): 85,000 to 105,000
Spindle 7, speed 20 (rpm)
Weight Per Gallon, (lbs/gal) 13.5 to 14.3

Hardener:

Viscosity, Cone & Plate, 25 °C, mPa·s (cP): 32.6
Shear rate 3,000 s^{-1}

Mixed:

Density @ 25 °C, ISO 1675, (g/cm³) 1.5
Coverage 636 cm³ per 1kg (17.6 in³ per 1 lb)

3. Typical curing performance

Curing properties:

Cure time @ 25 °C, (hours)	24
Working time @ 25 °C, (minutes)	10-15
Gel time (Green) @ 25 °C, (minutes 400 g mass)	38 to 45

4. Typical properties of cured material

Cured for 24 hours @ 25 °C,

Physical properties:

Shore hardness, ISO 868, Durometer D	90	
Tensile strength ISO 527-2, (N/mm^2)	38	(psi 5,500)
Compressive strength ISO 604, (N/mm^2)	110	(psi 16,000)
Compressive modulus ISO 604, (N/mm^2)	2,760	(psi 400,000)
Tensile Modulus, ASTM D 638 (N/mm^2)	8,400	(psi 1,220,000)
Glass Transition Temperature TMA ISO 11359-2	110 °C	
Coefficient of Thermal Expansion ISO 11359-2, K^{-1}		
Below Tg	$47x10^{-06}$	
Above Tg	$110x10^{-06}$	
Barcol Hardness, ASTM D 2583-06	50	

5. General information

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.
For safe handling information on this product, consult the Safety Data Sheet (SDS).

Directions for use

Surface preparation:

1. Store kits at 15 °C to 25 °C for at least 24 hours before beginning the chock pour.
2. Bedplates and machinery should be at least @ 15 °C to ensure complete flow.
3. Once the engine is in position, install sides and backs of dams for the chocks in a thickness of 12 to 70 mm. Check dams with a flashlight to assure tightness. When a thicker chock is required, use the multiple pour technique. Allow each pour to set and cool before proceeding. Subsequent pours should be made within 12 hours of previous pour.
4. Apply general-purpose weather stripping to the front edge of bedplates that will be in direct contact with epoxy excess to eliminate cracking.
5. Release agent or grease should be used in the prepared chock area and on exposed anchor bolts to facilitate chock removal for realignment.
6. Position front dams using an angle iron large enough to permit a minimum of a 12.5 mm head above the bedplate surface. Position dams from 16 to 19 mm away from bedplate edges.

Mixing:

Check Marine Chocking temperature and bedplate temperature. Add the required amount of hardener (per the reduction chart) to the contents of the resin can and mix with a heavy-duty drill for 1 to 5 minutes or until mixture is homogeneous. Mix at moderate speed, but do not allow a vortex to form. If the mixer vortexes, air will be drawn in which will cause bubbling of the chocking compound. Let the mixed product stand for 3 to 5 minutes to de-aerate.

Application method:

1. Pour chocks from one corner to maximize the escape of air and assure good surface contact. At 25 °C working time is approximately 10 to 15 minutes.
2. Allow chocks to cure the following minimum times before torquing bolts and checking alignment:
   35 hours at 15 °C 16 hours at 26 °C
   24 hours at 21 °C 11 hours at 32 °C

Technical tips for working with epoxies

Working time and cure depends on temperature and mass:

- The higher the temperature, the faster the cure
- The larger the mass of material, the faster the cure

To speed the cure of epoxies at low temperatures:

- Store epoxy at room temperature
- Pre-heat repair surface until warm to the touch

To slow the cure of epoxies at high temperatures:

- Mix epoxy in small masses to prevent rapid curing
- Cool resin/hardener component(s)

Not for product specifications

The technical data contained herein are intended as reference only and are not considered specifications for the product.
Product specifications are located on the Certificate of Analysis or please contact QuantiServ representative.

Storage

Store product in the unopened container in a dry location. Material removed from containers may be contaminated during use. Do not return liquid to original container. Storage information may be indicated on the product container labeling. Optimal storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties Wärtsilä cannot assume responsibility for product which has been contaminated or stored under conditions other than those recommended. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

(°C x 1.8) + 32 = °F	N/mm² x 145 = psi
kV/mm x 25.4 = V/mil	MPa x 145 = psi
mm / 25.4 = inches	N·m x 8.851= lb·in
µm / 25.4 = mil	N·m x 0.738 = lb·ft
N x 0.225=lb	N·mm x 0.142 = oz·in
N/mm x 5.71 =lb/in	mPa·s = cP

6. Contact

QuantiServ 24/7 Phone
+1 866 398 2788

QuantiServ Resins
+358 50 562 2786

epoxy-resins@quantiserv.com

Notes:
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