

SELECTION & SPECIFICATION DATA

Generic Type	Syntactic Polyurethane Elastomer
Description	Carbotherm 735 is a premium-grade, tough, resilient, glass syntactic polyurethane elastomer specifically designed to provide thermal insulation to subsea oil wells, pipelines, and associated equipment in subsea environments. Its tough mechanical properties make it suitable to use on hot pipe up to 165°F/74°C and under extreme pressures up to 4000 psi in depths up to 9000 feet at seawater temperatures of 34°F/2°C. It is ideal for jumpers and short pipe runs where a flexible, non-cracking thermal insulation is preferred for the purpose of providing "flow assurance".
Features	<ul style="list-style-type: none"> • Excellent (low) thermal conductivity properties • Flexible • Excellent flow for castable applications • Fast cure for quick application or return to service • Tough and resilient to handle shipping and installation • Handles extreme pressures up to 4000 psi (9000 ft/2700 m) • Dimensionally stable under extreme subsea exposures
Color	Yellow
Finish	N/A
Solids Content	By Volume 100% +/- 2%
Limitations	Not recommended for extended exposure to concentrated acids, aromatic hydrocarbons, ketones or chlorinated solvents.

SUBSTRATES & SURFACE PREPARATION

Steel	CARBON STEEL: Decontaminate surfaces as needed. Abrasive clean per SSPC SP-10 (Near White Metal Condition) producing a minimum 3½ mil (0.09 mm) surface profile. Sweep-blast to remove all flash rust, if any, before coating. Steel must be dry and dust-free before coating. Application to wet steel is not recommended.
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PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	System	Results
COMPRESSIVE STRENGTH (ASTM D412)	Carbotherm 735 after hydrolytic exposure	1152 psi (7.94 Mpa)
ELONGATION (ASTM D412)	Carbotherm 735 after hydrolytic exposure	27.8%
HARDNESS (Shore D)	Carbotherm 735 after hydrolytic exposure	Before Exposure: Shore D 60 After 7 weeks at 176°F (80°C) seawater: Shore D 42
TENSILE STRENGTH (ASTM D412)	Carbotherm 735 after hydrolytic exposure	1398 psi (9.64 Mpa)
THERMAL CONDUCTIVITY (ASTM C518)	Carbotherm 735	@68°F (20°C): 0.130 W/m ² K @140°F (60°C): 0.143 W/m ² K @212°F (100°C): 0.149 W/m ² K
WATER ABSORPTION (ASTM D570)	Carbotherm 735 after hydrolytic exposure	2.89% wt. gain

MIXING & THINNING

Mixing	Power mix Resin (Part A) with an air-driven agitator for 30 minutes just prior to use. Catalyst (Part B) requires no mixing before using unless tinted.
Ratio	By volume: 3 Parts A to 1 Part B (3A:1B)

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General)	A plural-component high pressure airless proportioned pump with a 3:1 fixed-volume A to B ratio is preferred.
Airless Spray	The primary application method for Carbotherm 735 is to pump into a mold formed around the pipe or piece of equipment. It can also be airless spray applied. It fully encapsulates bolts, edges and welds and is applied at film thicknesses needed to meet thermal conductivity requirements.

CLEANUP & SAFETY

Safety	Wear chemical goggles as minimum eye protection, use impermeable gloves and cover all exposed skin. Do not allow contaminated clothing to contact skin. Use properly fitted fresh air supplied respirators and adequate ventilation. Wash hands before eating, smoking or using washroom. Follow precautions in CFR Title 29 (OSHA) and all pertinent Local, State & Federal health, safety and environmental regulations. Read, understand and fully comply with recommendations made in Safety Data Sheets (SDS) supplied for individual coating components!
Ventilation	Provide forced air ventilation. Workers must use carbon monoxide filtered breathing air line respirators. If flammable vapors are present, use only non-sparking tools and equipment. COMPLY WITH PERTINENT LOCAL AND OSHA REGULATIONS RELATIVE TO WORK IN CONFINED SPACES.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: 12 months at 75°F (24°C) Part B: 12 months at 75°F (24°C)
Storage	KEEP DRY! Do not place drums directly on concrete or earth; store on top of wood slats or pallets. Blanket all partial drums with nitrogen gas to prevent moisture contamination. Avoid freezing. Do not open until ready to use. Rotate Resin (Part A) drums regularly if stored for long term.
Shipping Weight (Approximate)	Two Hundred (200) gallon kits that consist of four (4) steel drums, each containing net 50 gallons (189.3 lts) of material; 3 drums of part A and 1 drum of part B. Catalyzed coating 7.59 lbs/gal (0.91 kg/lit).
Flash Point (Setaflash)	Base is 500°F (260°C) (CC) and Catalyst is 230°F (110°C) (CC).

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.