

CUMMING

TECHNICAL BULLETIN 625-3

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C-THERM FPG PACK-IN-PLACE SYNTACTIC INSULATION

INTRODUCTION

Cuming Corporation's **C-THERM** product line of syntactic foam thermal insulation offers superior performance for deepsea oil and gas production. See Technical Note 600-1 for an overview of the entire product line. Bulletins on other materials in the **C-THERM** line of insulation systems for subsea equipment include 625-1, "pre-cast," and 625-2, "pour-in-place."

SYNTACTIC FOAM

The basis of any **C-THERM** product is syntactic foam, an advanced composite material of glass or ceramic microspheres cast into a binder of semi-rigid epoxy plastic resin. The outstanding chemical, thermal, and mechanical properties of **C-THERM** materials are adaptable to almost all operating conditions.

FORMS AVAILABLE

C-THERM FPG pack-in-place syntactic foam is supplied in two-part kits. The foam kits are of a unique "modeling clay" consistency, allowing the mixed material to be shaped and applied by hand. Upon curing, **C-THERM** FPG is a tough, semi-rigid solid with excellent water and temperature resistance. A fiberglass or plastic coating can be applied for extra ruggedness.

OPERATING LIMITS

C-THERM FPG pack-in-place materials are available in a range of temperature ratings to suit different conditions, from 100° to 121 °C (212 – 250 °F). The typical depth rating for all grades is 3050 m (10,000 ft). See the current companion data sheet for a complete listing of all physical properties of the particular grade you need for your application.

IMPROVED GRADES AVAILABLE

C-THERM FPG pack-in-place insulation is also available in a new series of "Third Generation" high elongation formulas with more flexibility. The improved version is designated FPG-HE. Elongation values have been

Worker applying **C-THERM** FPG syntactic foam demonstrates the ease of use and simplicity of pack-in-place insulation.



increased along with temperature limits. Contact our sales engineers for the current data sheet describing the **C-THERM** grade best for you.

TOTAL COVERAGE

The **C-THERM** insulation system employs an "ensemble" of pre-cast parts and panels, pour-in-place kits, and pack-in-place syntactic foam to achieve complete coverage of critical subsea equipment. Consult our engineers for advice.

PREPARATION

The surfaces of the subsea equipment must be clean and dry and warmed to at least 15 °C (60 °F). The material will adhere well to any metal or painted surface. A release agent must be used where adhesion is not desirable. Thickness is built up to provide the amount of insulation specified, with 50-100 mm (2"-4") being common. Cuming Corporation technicians are skilled in the design, application, and quality control of **C-THERM** materials.

SAFETY AND HEALTH

These products present no unusual hazard under normal use; however, they are intended for use by trained professionals in accordance with all applicable regulations. Consult Material Safety Data Sheet 625-3 and file for reference.

Sales Offices Worldwide

See our website
www.cumingcorp.com
for the office nearest you.