

**DESCRIPTION:** ThermalGuard™ CC2 is a fast set, closed cell, 245fa blown spray polyurethane foam (SPF) insulation designed for use in residential and commercial structures, exterior foundation or perimeter insulation, below grade applications, exterior tank/pipe insulation, etc. ThermalGuard CC2 is applied as a liquid and expands 25x in seconds to fill and seal building cavities of any shape and size. It exhibits superior thermal insulation, air-barrier, and sound attenuation properties compared to conventional insulation materials. Once fully cured ThermalGuard CC2 remains rigid maintaining significant structural strength and thermal insulation properties in adverse conditions across a wide variety of applications. ThermalGuard CC2 achieves a Class I Fire retardance rating, is Appendix X compliant without any additional coatings and meets or exceeds minimum building code requirements for fire safety.

**TYPICAL USES:**

- Insulation foam for walls, ceilings, roof decks, crawlspaces
- Residential, commercial and industrial building insulation

**FEATURES & BENEFITS:**

- ICC-ES ESR-2100
- Passes NFPA 286 without a prescriptive thermal barrier when used in conjunction with Fireshell F10E fire-protective coating.
- Class I fire rated
- Appendix X compliant without any additional coatings
- Low odor during application and produces no toxic vapors after application
- Seals, insulates and minimizes uncontrolled air movement into a building envelope
- Reduces energy consumption from heating and cooling
- 245fa-blown, non-ozone depleting agent

**CHEMICAL PROPERTIES:**

		<b>Isocyanate (A)</b>	<b>Resin (B)</b>
Specific Gravity (grams/cc)	ASTM D-1475	1.23	1.13
Viscosity (cps)	ASTM D-2196	200 – 250	900 – 1200
Mix Ratio, Parts per Volume		1	1
Shelf Life - Unopened Containers		6 months	6 months

**TYPICAL PHYSICAL PROPERTIES:**

	<b>Test</b>	<b>Result</b>
Density (nominal):	ASTM D-1622	2.0 lb/ft3 (32 kg/m3)
Tensile Strength (psi)	ASTM D-1623	70
Compressive Strength (psi)	ASTM D-1621	40
Closed-Cell Content (%)	ASTM D-2856	96
Water Vapor Permeability (perm) @ 2" (51 mm)	ASTM E-96	.8
Air Leakage (L/s/m <sup>2</sup> @ 75 Pa @ 1")	ASTM E-283	0.002
Fungus Growth	ASTM G-21	None
Dimensional Stability (%)	ASTM D-2126	<4Δ
Fire Rating:	ASTM E-84	Class I
Flame Spread Index	ASTM E-84	≤25
Smoke Development Index	ASTM E-84	≤450
R-Value:	ASTM C-518	6.85/inch
Service Temperature:		250° F (120° C)

**PROCESS TEMPERATURE AND ENVIRONMENT CONDITIONS:** ThermalGuard CC2 must be spray-applied using approved equipment. The system settings required to achieve quality spray foam application will vary depending on environmental and substrate conditions. The following recommended parameters will help ensure optimum foam quality.

<b>Iso (A) &amp; Resin (B) Components</b>	<b>Processing Pressure</b>	<b>Ambient Temperature</b>
115 – 145° F (46 – 63° C)	900 – 1400 psi	20 – 105° F (-6.7 – 40.6° C)
<b>Substrate Temperature</b>	<b>Substrate Moisture Content</b>	<b>Maximum Lift Thickness</b>
20 – 105° F (-6.7 – 40.6° C)	<19%	4"

(continued)

## **THERMALGUARD™ CC2 (continued):**

**PREPARATION:** ThermalGuard CC2 resin (B) does not require agitation. Do not pre-heat or recirculate resin (B) as doing so will result in the “boiling off” of the 245fa blowing agent which will result in poor yield and poor foam performance.

**APPLICATION INSTRUCTIONS:** ThermalGuard CC2 is installed by independent SPF contractors. It is recommended that building owners verify that the SPF insulation contractor maintains proper credentials, insurance, and licenses and is properly trained to safely install SPF insulation products.

ThermalGuard CC2 demonstrates excellent adhesion to various substrates when installed according to manufacturer specifications. Allow a minimum of 2 hours for full off-gas and cure before application of a primer, topcoat, or intumescent paint. For best results apply primer, topcoat, or intumescent coating within 72 hours of installation of foam. ThermalGuard CC2 should be installed at a maximum thickness of 4 inches per pass with a minimum of 30 minutes between passes. IT IS THE APPLICATOR'S RESPONSIBILITY TO TEST LIFT THICKNESS FOR A PARTICULAR APPLICATION PRIOR TO COMMENCING INSTALLATION TO ENSURE THAT THE PRODUCT CAN BE INSTALLED SAFELY AT THE DESIRED THICKNESS WITHOUT RISK OF CHARRING OR FIRE.

ThermalGuard CC2 should not be left exposed to sunlight, as UV light will rapidly degrade foam. Do not use near high heat or open flame.

ThermalGuard CC2 must be covered with an approved 15-minute thermal barrier when used as insulation for residential or commercial buildings. Installation must comply with all applicable building codes. Do not install ThermalGuard CC2 at a thickness exceeding 4 inches per pass and do not apply subsequent passes within 30 minutes of the previous pass.

**SUBSTRATES:** ThermalGuard CC2 is chemically & physically compatible with most common building materials including electrical wiring, wood, metal, concrete, plastic (PVC), copper, vinyl, and glass. It is the responsibility of the contractor to check substrate compatibility prior to starting of the job.

**HOW SUPPLIED:** Net weight per set is 965 pounds (437.7 kg). A set of ThermalGuard CC2 consists of one (1) 55 gallon (208 L) drum of 'A' component and one (1) 55 gallon (208 L) drum of 'B' component.

Part numbers - Set: TGCC2, Side A: FFPF-ISO A, Side B: FFPF-PUCC1.9P LOW ODOR.

**STORAGE:** ThermalGuard CC2 should be stored between 60 – 80° F (16 – 26° C) out of direct sunlight. Do not allow material to freeze.

### **SAFETY PRECAUTIONS: Health Considerations - Consult the Rhino Linings® Safety Data Sheets (SDS)**

This chemical system requires the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS and Safety Manual for detailed information and handling guidelines.

**For Your Protection:** The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Rhino Linings Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Rhino Linings Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.

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#### Read This Before You Buy What You Should Know About R-values

The chart shows the R-value of this insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy.

There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend upon the climate, the type and size of your house, the amount of insulation already in your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you'll save on fuel.

To get the marked R-value, it is essential that this insulation be installed properly.

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