

**PART NUMBERS:** TGCC2 SET (ISO A-D, TGCC2 B-D)

**DESCRIPTION:**

ThermalGuard<sup>™</sup> 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 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 1 Fire retardance rating, is Appendix X compliant without any additional coatings, and meets or exceeds minimum building code requirements for fire safety.

**FEATURES and BENEFITS:**

- ICC-ES ESR-2100.
- Passes NFPA 286 without a prescriptive thermal barrier when used in conjunction with Fireshell F10E, and Paint and Protect DC315 Fire-Protective Coatings.
- Class 1 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, LOW-GWP.

**TYPICAL USES:**

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

**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	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	0.8
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 1
Flame Spread Index	ASTM E-84	≤25
Smoke Development Index @ 4 inches	ASTM E-84	≤450

R-Value:	ASTM C-518	6.5/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.

Iso (A) and Resin (B) Components	Processing Pressure	Relative Humidity
115 – 145° F (54° C)	1100 – 1500 psi	85%
Substrate Temperature	Substrate Moisture Content	Maximum Lift Thickness
40 – 105° F (4.4 – 40.6° C)	<18%	2"

\*\*\*For substrate temperatures between 20 – 40° F, contact Rhino Linings Technical Services for assistance. Changes to spray techniques may be required and customers can expect reduced yield and additional spray time when spraying in colder applications.

**PREPARATION OF SUBSTRATES:**

Providing the proper substrate is the responsibility of the owner, the owner’s appointed representative, the contractor, and/or inspector. It is recommended to remove dust, dirt, oil, paint, and alternative polymers from all surfaces prior to applying. See SPFA guidelines for further details on substrate prep. [www.sprayfoam.org/](http://www.sprayfoam.org/)

**PRECONDITIONING:**

1. If the drum temperature is 80° F (26.6° C) or higher, use caution when opening the drum! The contents will be under pressure.
2. It is recommended to precondition material to (65 - 75° F) prior to application. Material may thicken at lower temperatures which can cavitate pumps.

**MIXING:**

1. DO NOT Mix
2. DO NOT Recirculate.  
 \*\*\*Agitation, recirculation (pre-heating) of resin (B) material can cause damage to blowing agent, which can result in poor yield and foam performance.

**PRESSURE SETTINGS:**

1. Product should be sprayed with a high pressure plural-component proportioner capable of a minimum of 1000 psi dynamic pressure.
2. Static pressure is typically set between 1100 - 1500 psi.
3. Dynamic pressure typically operates at a minimum of 1000 psi.

**TEMPERATURE SETTINGS:**

1. Primary heaters and hose heaters are typically set between (115 - 145° F). Higher temperatures are utilized in winter months, lower temperatures are utilized in summer months. Thin passes (1/4" or less) are not recommended even to cold surfaces.
2. Proper application temperature setting is the responsibility of the end user. Equipment temperature varies and can be dependent on equipment, hose length, elevation, ambient temperature, substrate temperature, humidity, and other factors.

**APPLICATION:**

1. Clean surfaces according to “Preparation of Substrates” section.
2. If priming, follow manufacturer recommendations. Ensure primer is adequately cured prior to application.

3. Substrate temperatures should be between 40 -105° F (4.4 – 40.6° C).
4. Flush an adequate amount of material through the lines/gun prior to spraying desired surface when changing between systems. Flush amount will be dependent on prior system used.
5. Can be applied up to 2 inches max. Allow 30 min before next pass and double each time after to PREVENT THE RISK OF CHARRING OR FIRE.
6. Before application, test material to ensure that material sprays, cures, and hardens properly.
7. Inspect applied material intermittently to ensure no problems exist. If problems are detected, discontinue application and inspect all substrates, equipment, gun, and liquid material for problem source(s).

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 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 2 inches per pass and do not apply subsequent passes within 30 minutes of the previous pass.

### **SUBSTRATES:**

ThermalGuard CC2 is chemically and 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 the job.

### **CLEANING AND MAINTENANCE:**

Spray equipment must be maintained in proper operating condition. Failure to adequately maintain spray equipment may result in poor product performance. Refer to your equipment manufacturer's maintenance procedures for more details.

Contact Rhino Linings® Technical Services for long-term equipment storage recommendations.

### **HOW SUPPLIED:**

Net weight per set is 965 pounds (437.7 kg). A set of ThermalGuard CC2 consists of one (1) 50 gallon (189 L) 500 lb drum of 'A' component and one (1) 50 gallon (189 L) 465 lb drum of 'B' component.

### **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 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 end users and processors.

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**Contact Rhino Linings Technical Support at 858-450-0411 for additional questions.**

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