TECHNICAL DATA SHEET - TDS

Dynamo Polyurethane Systems **CLIMATE GARD ROOFING SYSTEMS**

HFO CLOSED CELL SPRAY FOAM ROOFING

FOR PROFESSIONAL USE ONLY

CLIMATE GARD CGR2.5

HIGH DENSITY • CLOSED CELL SPRAY FOAM • LBA • Typical Roofing Systems • 2.5lb density

Climate Gard CGR 2.5 is a two component, high density, one to one by volume spray applied polyurethane roofing foam systems. To produce Climate Gard requires the use of an "A" component (**Dynamo ISO/Climate Gard ISO**) and a blended "B" component (**Climate Gard RESIN**).

Climate Gard contains latest generation of ZERO ozone depleting blowing agents.

Recommended Product Applications:

Roofing Systems, Agricultural Applications, Tank Insulation, Air Barrier Systems

Benefits of a Climate Gard Spray Polyurethane Roof System making them an attractive choice for commercial roofs:

- SPF roofs provide a seamless, monolithic membrane that helps to eliminate the risk of leaks and ensures superior waterproofing.
- The continuous thermal insulation properties of a Climate Gard SPF roof help to minimize heat transfer, reduce energy consumption and lower utility bills.
- Spray foam can be applied to any roof shape or size; thus creating a tight seal around penetrations and irregularities resulting in improved durability and water resistance.
- Climate Gard SPF roofs are highly durable and capable of withstanding extreme weather conditions.
- Climate Gard SPF roofs help our environment by reducing energy consumption and achieving sustainability goals.
- **FINISHED FOAM PROTECTION - The finished foam needs to be protected from the adverse affects of sunlight, which can cause discoloration and degredation. The protective coating or covering should be applied over the polyurethane foam the same day of application or within 24 hours.**

PROPERTY	ClimateGard CGR series	TEST METHOD
Aged R- Value	6.25 at 1 inch	ASTM C-518
Compressive Strength	45 PSI (nominal)	ASTM D-1621
Core Density	2.5lbs/ft^3	ASTM D-1622
Closed Cell Content	>90%	ASTM D-2856
Tensile Strength	90-100 Psi	ASTM D-1623
Water Absorbtion	2%	ASTM D-2842
Moisture Vapor Transmission	1 perm/in	ASTM E-96
Surface Burning Characteristics	Flame Spread Index <75	E-84/UL 723
Dimensional Stability	% Change in Volume	ASTM D-2126
28 Days @ 158°F 100% RH	2.4%	
28 Days @ 200°F / AMB	3.1%	

APPLICATION PER LIFT

Applicators should apply a minimum pass thickness of 3/4 inches, maximum pass thickness of 1 1/2 inches, with a minimum of 30 minutes between passes.

* SEE ALL APPLICATION DETAILS ON OTHER SIDE

CAUTION: Extreme care must be taken when removing and reinstalling drum transfer pumps so as NOT to reverse the "A" and "B" components.

CLIMATE GARD 2.5 HFO CLOSED CELL RESIN

ENVIRONMENTAL CONSIDERATION

SPF Roofing Applicators/Contractors must recognize and anticipate climatic conditions prior to application. Variations in ambient air and substrate temperature will influence the chemical reaction of the two components, directly affecting the expansion rate, amount of rise, yield, adhesion and the resultant physical properties of the foam insulation.

SUBSTRATE CONSIDERATION

Recommended substrates occur when ambient air and surface temperatures fall within the range of 45°F and 120°F. ***All substrates to be sprayed must be dry at the time of application.*** Moisture in the form of rain, fog, frost, dew or high humidity (>85% R.H.), will react chemically with the mixed components, adversely affecting the polyurethane foam formation, dimensional stability and physical properties of the finished product. Wind velocities in excess of 12 miles per hour may result in excessive loss of exotherm and interfere with the mixing efficiency, affecting foam surface, cure and physical properties and will cause overspray. ***Precautions must be taken to prevent damage to surrounding areas from overspray.***

STORAGE OF DRUMS

Store drums at 70°F to 80°F for a minimum of 48 hours before use. Materials in containers should be maintained at 65°F to 85°F while in use. Conditioned trailers or tanks may be necessary. Material temperature should be confirmed with a thermometer or an infrared gun. Do not recirculate material. Material should never be allowed to freeze.

HEALTH AND SAFETY INFORMATION

MANDATORY! Respiratory protection. Visit Dynamo Polyurethane System's website or CPI's website (www.polyurethane.org) for a copy of the Model Respiratory Protection Program developed by CPI. Wear a NIOSH approved respirator. The "A" component contains reactive isocyanate groups. Persons with known respiratory allergies should avoid exposure to the A (ISO) component. Applicators should ensure the safety of the job site and construction personnel by posting appropriate signs warning of spray foam work in progress. Wear appropriate chemical safety goggles and rubber gloves when handling or working with these materials. Consult the product's SDS sheet for further information.

In Case of Spills or Leaks:

- Utilize appropriate personal protective equipment (PPE)
- Ventilate area to remove vapors
- Contain and cover spilled material with a loose, absorbent material such as oil-dry, vermiculite or sawdust.
- Shovel absorbent waste material into proper waste containers
- Wash the contaminated areas thoroughly with hot, soapy water
- Report sizable spills to proper environmental agencies

EMERGENCY NOTIFICATIONS:
CHEMTREC : Material Leaks, Spills or Fire (800) 424-9300

PROCESSING EQUIPMENT

2:1 transfer pumps are recommended for material transfer from drum/tank to proportioner. The plural component proportioner must be capable of supplying each component within ±2% of the desired 1:1 mixing ratio by volume. Hose heaters should be set to deliver 105°F to 130°F materials to the spray gun. Optimum hose pressure and temperature will vary with equipment type and condition, ambient and substrate conditions and the specific application. ***It is the responsibility of the applicator to properly interpret all equipment technical literature, particularly information that relates to the acceptable combinations of gun chamber size, proportioner output and material pressures. The relationship between proper chamber size and the capacity of the proportioner's pre-heater is critical.*** Mechanical purge spray guns are recommended for highest foam quality.

PROCESSING PARAMETERS/CHARACTERISTICS

Pre-heater Temperature:	"A" 110-120°F "B" 120-130°F
Hose Temperature:	110-120°F
Pressures: (dynamic)	1000-1200 psi
Mix Ratio Parts:	1 by 1 volume "A" to "B"
Viscosity at 70°F	70 +/-100 cps "B: Component 150-250 cps "A" Component
Shelf Life	6 months @ 65°F to 80°F

PRODUCT REACTIVITY

System	Surface Temperature
Fast	50-75°F
Regular	70-100°F

Note: Adhesion should not be tested within one hour of application.