

PRODUCTNAME

# Thermo-Shield® NC (Non-Combustible) Exterior Insulation & Finish System



MANUFACTURER

Gemite® Products Inc.

Toll Free: 888-4-GEMITE (888-443-6483)

E-mail: [techinfo@gemite.com](mailto:techinfo@gemite.com)

Web Site: [www.gemite.com](http://www.gemite.com)

USA

160-3480 East Robinson Rd.

Amherst, NY 14228

Phone 888-443-6483

Fax 888-443-6329

CANADA

1787 Drew Road

Mississauga, Ontario L5S 1J5

Phone 905-672-2020

Fax 905-672-6780

FEATURES

- Non-combustible
- Approved under Building Code- No Height Limitations
- Impact and abuse resistant
- ULC tested and approved
- Breathable (good Water Vapor Transmission)
- Energy efficient (cost saver)
- Superior economy
- Easy to apply
- Various textures and colors

PRODUCT DESCRIPTION

Basic Use

Thermo-Shield NC (Non-Combustible) is an ULC approved EIFS that meets all Building Code requirements for applications over three stories. Combined with non-combustible insulation, such as mineral wool, it satisfies all the building code requirements for non-combustible construction. It can be site applied, or panelized and is suitable for retrofit and new construction.

Composition and Materials

Thermo-Shield NC, an Exterior Insulation and Finish System, consists of a mechanically fastened thermal insulation layer, reinforced base coat and the textured color finish.

Insulation

Extruded or expanded polystyrene insulation is used for most types of construction. Polyurethane or polyisocyanurate insulation can also be used. When a completely non-combustible system is required, mineral wool insulation is used.

Fasteners & Accessories

Fasteners, washers, plaster stops, corner beads, control joints and other accessories must be used as per Specification.

Base Coat

Thermo-Shield NC, is a hydraulic cement base, fibre-reinforced, non-flammable base coat (plaster). Supplied as *Concentrate* or *Premix*.

Reinforcing Fabric

Reinforcing Fabric NC, 96.5 cm x 45.7 m (38" x 150') roll, is an open weave fabric used for reinforcement of the base coat.

Primers

Primer #550, is an acrylic latex primer used over the extruded polystyrene.

Primer #300, is an acrylic latex based primer for Base Coat prior to application of the finishing coat.

Finishing Coat

Tuff-Cote is an 100% acrylic and integrally colored flexible, textured coating, available in a variety of colors and finishes.

Tuff-Stone CB is an 100% acrylic coating using colored aggregates to achieve a desired color.

Sealant

One component silicone sealant.

Air and Vapor Barriers

Air and vapor barriers are mandatory in new construction and may be necessary in retrofit.

Limitations

Must be installed at temperatures 4°C (40°F) or above. The temperature must remain for a minimum of 24 hours after installation. Take precautions when applying under tarp or at temperatures above 25°C (77°F).

Health and Safety

Thermo-Shield NC is non-toxic and non-flammable. Your skin might be sensitive to cement. We recommend use of rubber gloves. Avoid contact with eyes and prolonged contact with skin. If contact occurs, flush immediately with water. Seek medical advice if irritation occurs. Harmful if digested. Keep product out of reach of children. FOR INDUSTRIAL USE ONLY. Consult MSDS for additional information.

Packaging

Thermo-Shield NC Concentrate is packaged in 10 kg (22 lb) bags. Thermo-Shield NC Premix is packaged in 22.7 kg (50 lb) bags. Primer #550 is packaged in 20 L (5.3 USG) pails.

Yield

Thermo-Shield NC Concentrate yields 84.6 L (3.2 ft<sup>3</sup>) and covers 14.1 m<sup>2</sup> @ 6 mm (153.3 ft<sup>2</sup> @ 1/4") thickness per unit mix.

Thermo-Shield NC Premix yields 12.2 L (0.43 ft<sup>3</sup>) and covers 2.0 m<sup>2</sup> @ 6 mm (20.6 ft<sup>2</sup> @ 1/4") thickness per bag.

Primer #550 covers approximately 18.5 - 20.4 m<sup>2</sup> per L (750 - 830 ft<sup>2</sup> per USG).

The coverage's are only given as guide line and depend greatly on thickness of the application and application method used. Carry out field application to determine the exact material quantity requirements.

Gemite Products Inc.  
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## Storage and Transportation

*Thermo-ShieldNC* and *Primer #550*, when stored on pallets in a dry environment, have a shelf-life of 12 months. *Primer #550* **must not freeze**. Pack aged 60 bags (*Concentrate*), 55 bags (*Premix*) and 36 pails (*Primer #550*) per pallet.

## TECHNICAL DATA

Non-Combustibility (CAN 4 - S114)	passes
Fire Resistance (CAN/ULC - S101)	passes
Modulus of Rupture (ASTM C348)	6.9 - 8.3 MPa (1,000 - 1200 psi)
Compressive Strength (ASTM C109)	24.1 - 27.6 MPa (3,500 - 4,000 psi)
Tensile Strength	4.1 - 4.8 MPa (600 - 700 psi)
Impact Strength	1.6-1.8 N-m (140 - 160 in- lbs)
Freeze/Thaw Durability (ASTM C 666 Procedure A)	0% weight loss
Water vapor Permeability (ASTM E96)	11.2 - 20.0 perm- cm (6.8 - 12.0 perm- in)

## INSTALLATION

Current Guide Specification and Application Instructions contain additional information specific to each application and must be followed. Contact Gemite's Technical Service for information specific to your application and to carry out the computer analysis to optimize the wall performance.

Inspect substrate for proper type and condition. Mechanically fasten the insulation board to the substrate using 1/3 of the fasteners. At each control joint, corner beads and plaster stops to the insulation. Extruded polystyrene must be primed with *Primer #550* to make the surface of the extruded polystyrene tacky, for easy and fast installation of the *Reinforcing FabricNC*. Attach the reinforcing fabric and apply the remaining fasteners.

Mix Design	Metric	US
<i>Thermo-ShieldNC Concentrate</i>	10 kg	22 lb
Cement	40 kg	94 lb
Sand	120 kg	283 lb
Water	22 L	6.2 USG
<i>Thermo-ShieldNC Premix</i>	22.7	50 lb
Water	3.8 L	1.0 USG

## Mixing

Use a paddle or helix mortar mixer large enough for a batch. Place most of the water into the mixer. Remove the separately packaged bag of fibers. Add powder into the water while mixing and mix for one (1) minute. Add sand and cement and mix until free of lumps. Add reinforcing fibers gradually and mix for not more than one (1) minute. Adjust the water for suitable workability. Do not over mix. Convey mixed material to the point of placement in clean containers.

## Application

Trowel apply a tight scratch coat of *Thermo-Shield NC Concentrate* and double back to a minimum thickness of 6 mm (1/4"). *Thermo-ShieldNC Concentrate* can be spray applied and trowel finished. Use a straight edge (darby) to eliminate high and low spots. Provide an even float finish.

Roll or spray apply the *Primer #300*. *Tuff-Cote* and *Tuff-Stone CB* finish coats come pre-mixed. Apply by trowel, spray gun or roller to provide various textures and surface patterns.

## Curing

*Thermo-Shield NC* Base Coat must cure for a minimum of 3 days before application of the Primer and Finish Coat. When working under tarps at freezing temperatures, use electrical heaters. Avoid using propane heaters to prevent "carbonation" of the material.

## Clean Up

All tools must be cleaned with water immediately after use. Cured material can only be removed mechanically.

## AVAILABILITY AND COST

Available worldwide. Contact Gemite for the name of the nearest Representative/Distributor and pricing information.

## MAINTENANCE

*Thermo-ShieldNC* is virtually maintenance free and requires repair only when damaged by intentional or severe abuse.

## WARRANTY

A limited twelve (12) month Material Replacement Warranty is available. For complete details contact Gemite's Head Office.

## TECHNICAL SERVICE

For advice on suitability of *Thermo-Shield NC* for specific application, specification assistance and application advice contact Technical Service: USA 888-443-6483 or Canada 905-672-2020.

## Short Specification

The exterior insulation & finish system shall be *Thermo-ShieldNC* by Gemite Products Inc. [USA 888-443-6483] [Canada 905-672-2020]. The insulation shall be extruded polystyrene, mineral wool, or other insulation approved by Gemite Products Inc. The insulation shall be mechanically attached by fasteners. Apply accessories as per approved design drawings. *Thermo-ShieldNC Premix* is to be applied at a minimum thickness of 6 mm (1/4") and it shall incorporate alkaline resistant glass fibers for high impact strength and crack resistance. The system shall be finished with *Tuff-Cote* or *Tuff-Stone CB* to a specified texture and color. It shall be applied by an Authorized Applicator according to current Gemite Products Inc. Guide Specifications and Application Instructions. All components of the System must be supplied by Gemite Products Inc. to be eligible for warranty.