



# **THERMALSTOP<sup>®</sup>**

## **ARCHITECTURAL SPECIFICATION**

### **FOR METAL BUILDING ENVELOPE INSULATION**

#### **PART 1 - GENERAL**

##### **1.01 SUMMARY**

ThermalStop<sup>®</sup> provides a seamless, sprayed-in-place polyurethane foam for use as a building envelope insulation and air barrier system. The ThermalStop<sup>®</sup> spray systems can be applied in layers to build up the thickness to achieve the desired R-value.

##### **1.02 QUALITY ASSURANCE**

ThermalStop<sup>®</sup> must be installed by a qualified spray foam applicator who is familiar with the operation and maintenance of his equipment and who is familiar with the properties of the NCFI Polyurethanes Spray System which is being applied.

##### **1.03 MATERIALS, DELIVERY AND STORAGE**

A. Materials shall be delivered in their original, tightly sealed containers.

B. Keep temperature of chemicals above 70°F for several days before use. Cold chemicals can cause poor mixing, pump cavitation or other process problems due to higher viscosity at lower temperatures. Storage temperature should not exceed 90°F. Do not store in direct sunlight. Keep drums tightly closed when not in use and under nitrogen pressure of 2-3 psi after they have been opened. See individual product data sheets for specific storage recommendations and shelf life information.

##### **1.04 SEQUENCE AND SCHEDULING**

The ThermalStop<sup>®</sup> spray polyurethane insulation is applied after the perimeter wall is in place, windows and doors installed, and rough-in plumbing and electrical inspections are complete.

## 1.05 VAPOR RETARDER APPLICATION

A. When required, a vapor retarder shall be applied to the substrate to be insulated or to the finished spray polyurethane foam insulation. The predominant direction of the vapor drive determines the location of the vapor retarder relative to the spray polyurethane foam.

B. The vapor retarder shall be applied in accordance with manufacturer's specifications so as to achieve the desired perm rating per ASTM E-96, Method E.

## 1.06 SAFETY REQUIREMENTS

A. **HANDLING OF LIQUID COMPONENTS:** Use caution in removing bungs from the container. Loosen the small bung first and let any built up gas escape before completely removing. Avoid prolonged breathing of vapors. In case of chemical contact with eyes, flush with water for at least 15 minutes and get medical attention. For further information refer to "MDI-Based Polyurethane Foam Systems: Guidelines for Safe Handling and Disposal" publication AX-119 published by Alliance for the Polyurethanes Industry 1300 Wilson Blvd, Suite 800, Arlington, VA 22209.

B. **PERSONNEL HEALTH CONSIDERATIONS:** Refer to appropriate Material Safety Data Sheets (MSDS) for additional safety information.

C. **15-MINUTE THERMAL BARRIER:** Federal, state, and local building codes vary. All have requirements that spray-applied polyurethane foam insulation be separated from occupied spaces with an approved 15-minute fire rated thermal barrier. Exceptions to the thermal barrier requirement are provided by certain sections of the building codes based on the intended use and other design considerations of the building to be insulated. The building owner should consult local officials to ensure compliance of all applicable code requirements.

## PART 2 - PRODUCTS

2.01 **THERMALSTOP<sup>®</sup>** is a closed-cell polyurethane foam insulation that can be created by the application of several different chemical systems.

The specific polyurethane foam system used shall be selected as advised by NCFI Polyurethanes based on climate and location of the application. See the individual product data sheet for typical physical properties and application information.

## 2.02 PRIMERS

Some metals have a surface which may need to be primed to ensure proper adhesion of the foam. If necessary, select a primer specifically designed for application to metals.

If there is any question as to the primer or need for a primer, contact NCFI Polyurethanes for further guidance.

## PART 3 – EXECUTION

### 3.01 APPLICATION OF PRODUCTS

ThermalStop<sup>®</sup> is suitable for application to most construction materials including metal, wood, masonry, and drywall. All surfaces to be sprayed should be clean, dry, and free of dew or frost. All metal to which foam is to be applied must be free of oil, grease, etc. Some metals have oily finishes which may need to be primed prior to the application of the ThermalStop<sup>®</sup> insulation.

### 3.02 SUBSTRATE CONSIDERATION AND PREPARATION

On general work where the surface to be sprayed will remain at ambient temperature or cooler, the surface should be between 60°F and 120°F. In this range the warmer the surface the better the adhesion. When surfaces to be sprayed are cooler than 70°F a flash coat should be applied with the second coat following as soon as the original coat is tacky to the touch. In some instances, it is possible to spray the polyurethane foam to metal surfaces below 32°F but special attention must be maintained to ensure proper chemical reaction and foam adhesion to the metal surface. For service temperature in the range of 120-180°F, the surface to be sprayed should be 120°F or above at time of spraying.

### 3.03 PRIMER APPLICATION

When required, the primer shall be applied to the properly prepared substrate in accordance with the manufacturer's guidelines and allowed to cure prior to application of ThermalStop<sup>®</sup> spray polyurethane foam.

### 3.04 SPRAY POLYURETHANE FOAM APPLICATION

See the individual product data sheet for typical physical properties and application information.