



Celotex Corporation
Testing Services

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THERMAL TESTING LABORATORY REPORT

December 19, 1997

Client: Tenneco Packaging - AVI
1411 Pidco Drive
Plymouth, IN 46563

MTS Job No.: 258218G

Metro Dade Notification No.: CAE 97298

Project: Emissivity of Astro-Foil Reflective Insulation

Introduction:

This report presents the results of thermal tests conducted on material submitted to our laboratory on August 26, 1997. Testing was completed on December 15, 1997. The manufacture of the product was witnessed by J. Bridenstine on July 21, 1997 and documented in a P.E. sealed letter to R&D Services, Incorporated, dated July 23, 1997. The surface emittance of the above material was determined in accordance with the following American Society for Testing and Materials standard test method.

ASTM C1371-97, "Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers".

Specimen Preparation:

One (1) roll of foil/bubble/bubble/foil (FBBF) reflective insulation material was supplied by the client and identified as Astro-Foil Reflective Insulation. A 3 inch diameter sample was cut from the insulation roll. The foil was separated from the plastic bubble pack and tested with the shiny foil side up.

Test Method:

The emittance was measured using the Devices & Services Company, model AE emissometer. The instrument is calibrated using two standards with known emittances of 0.08 and 0.88 measured at 82°C (180°F). Heat is supplied by the detector to maintain this constant temperature. Additionally, a heat sink is used to mount the specimen. The detector is designed to provide a voltage output that is linear with emittance.

This report is for the information of the client. It may be used in its entirety for the purpose of securing product acceptance from duly constituted approval authorities; however, this report or the name of Celotex Corporation shall not be used in publicity or advertising.

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Six (6) measurements were recorded for the material. The sample was mounted on the heat sink and tested. Once completed, the sample was retested using the emissometer detector device rotated 90 degrees from the original position. Two (2) additional sets of data were recorded using the above procedure for each material.

Summary of Results:

The average emittance for the Astro-Foil Reflective Insulation was determined to be 0.05. Tests were conducted in a controlled laboratory at 72°F and 50% relative humidity.

Tested by: Russell Woltemar
Russell W. Woltemar
Research Technologist

Approved by: Stanley D. Gatland II
Stanley D. Gatland II
Research Engineer

R. Woltemar
12/19/97