Celotex Corporation
Testing Services

10301 Ninth Street North
St. Petersburg, Florida 33716
(813) 578-4316
Fax (813) 578-4280

FIRE TESTING LABORATORY REPORT

December 17, 1997

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

MTS Job No.: 258218D

Metro Dade Notification No.: CAE 97300

Project: Ignition Properties of Astro-Foil Reflective Insulation Polyethylene Plastic

Introduction:

This report presents the results of fire tests conducted on material submitted to our laboratory on December 10, 1997. Testing was completed on December 16, 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.

Specimen Preparation:

Approximately 100 grams of plastic bubble sheet were supplied by the client and identified as Astro-Foil Reflective Insulation polyethylene plastic. Twenty (20) 3 gram samples were fabricated from the material. The plastic was cut, and melted into the specimen cups. The samples were conditioned in a controlled laboratory at 70°F and 50% relative humidity a minimum of 48 hours prior to testing.

ASTM D1929 Test Method:

The following results were determined in accordance with the test method below.

ASTM D1929-91a, "Standard Test Method for Ignition Properties of Plastics - Procedure B"

The plastic materials self-ignition and flash-ignition temperatures were determined using a "Setchkin" hot-air ignition furnace. *This standard should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.*

Client: Tenneco Packaging - AVI **MTS Job No.:** 258218D

Summary of ASTM D1929 Test Results

Specimen I.D.	Flash-Ignition Temperature	Self-Ignition Temperature
Astro-Foil Reflective Insulation Polyethylene Plastic	350°C [662°F]	360°C [680°F]

Observations:

Constant air velocities of 5 ft/min were maintained in the furnace test chamber as specified by Section 9.1.1 of the Standard Test Method. The material melted and smoked during the flash and self ignition tests. Data are located in the Appendix.

12/19/97

Tested by: William M. Gwynn
Laboratory Technician

Approved by: Stanley D. Gatland II
Research Engineer

APPENDIX

MTS Job No. 258218D

8:	Celotex Technical Center
LE NAME:	2582180.SDT
ST DATE:	12/16/97, 10:13 a.m.
ERATOR:	Hutch Gwynn
ST TYPE:	CONSTANT TEMPERATURE at 340.0 deg C
R FLOW:	25.40 mm/sec
UT LIGHT:	ON Pre-Flash Ignition Temperature
ECIMEN ID:	ASTMD-FOIL
ECIMEN DESCRIPTION:	

ST DURATION:	785 seconds
NITION TIME:	NO ignition
AME DURATION:	NO ignition
ITIAL MASS:	3.00 gm
NAL MASS:	0.00 gm
SS LOSS:	100.00 %

ITIAL TEMPERATURES:

r temp at sample. (T2)	:	300.00 deg C
nular space temp.	:	381.00 deg C
mple temp. (T1)	:	170.00 deg C
ating Coil Temp. (T3)	:	369.00 deg C

NAL TEMPERATURES:

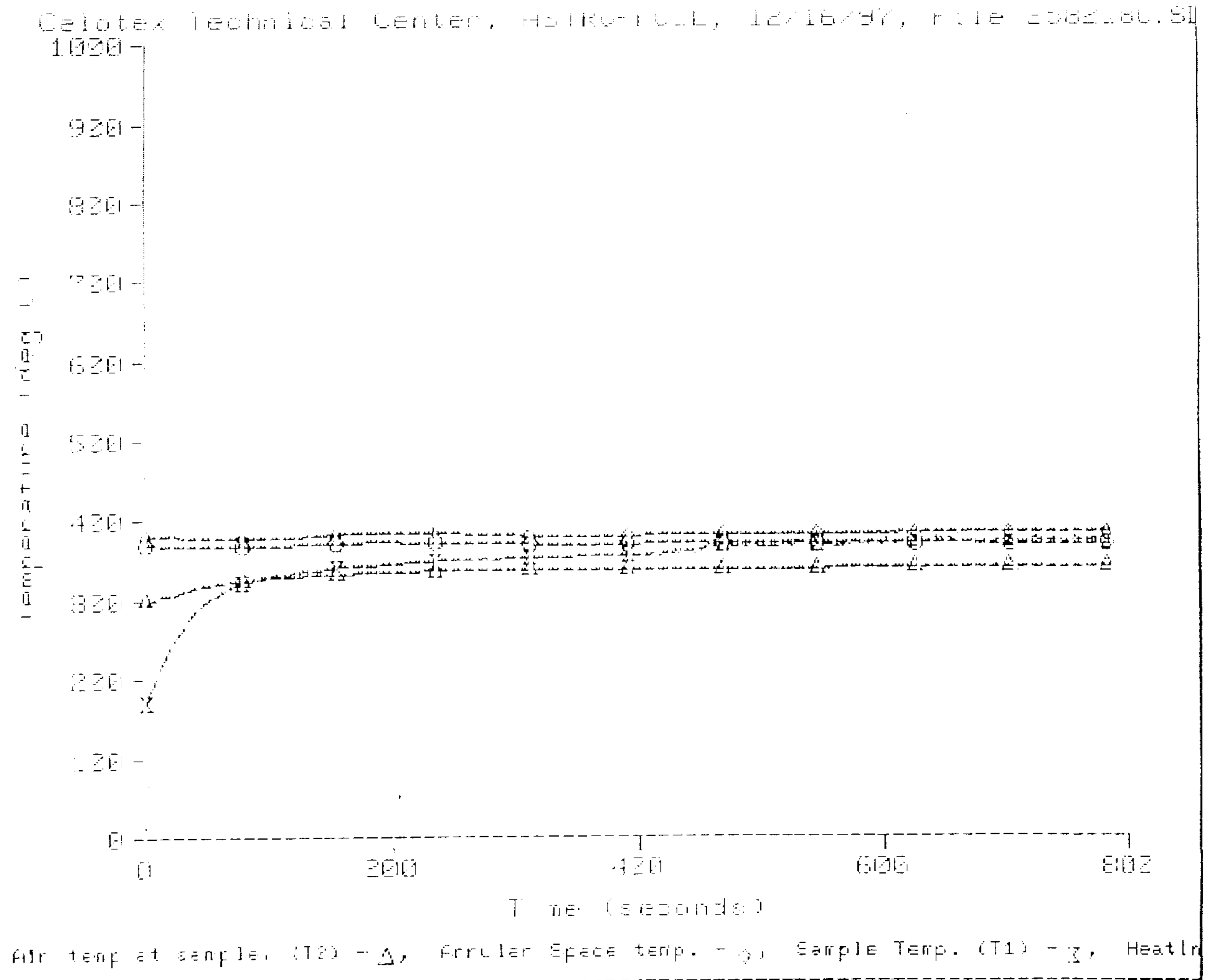
r temp at sample. (T2)	:	339.00 deg C
nular space temp.	:	382.00 deg C
mple temp. (T1)	:	373.00 deg C
ating Coil Temp. (T3)	:	368.00 deg C

XIMUM TEMPERATURES:

r temp at sample. (T2)	:	339.39 deg C
nular space temp.	:	384.03 deg C
mple temp. (T1)	:	376.24 deg C
ating Coil Temp. (T3)	:	372.18 deg C

MPERATURE RISES:

r temp at sample. (T2)	:	39.39 deg C
nular space temp.	:	3.03 deg C
mple temp. (T1)	:	206.24 deg C
ating Coil Temp. (T3)	:	3.18 deg C



Celotex Technical Center, ASTM-E136, 12/16/97, File 2082.80.SD
1000
920
820
720
620
520
420
320
220
120
0
0
200
420
600
802
Time (seconds)
Temperature (deg C)
Air temp at sample. (T2) - Δ, Annular Space temp. - ◊, Sample Temp. (T1) - Σ, Heatln