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CHEMISTRY AND CHEMICAL ENGINEERING DIVISION  
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## INTRODUCTION

ASTM E 162-98  
TEST FOR SURFACE FLAMMABILITY  
OF MATERIALS USING A RADIANT  
ENERGY SOURCE

TEST REPORT  
CONSISTING OF 4 PAGES

MATERIAL ID: HPDL ACC. TO ISO 4586-CGF  
[EN438-CGF] - (13 MM)

SWRI PROJECT NO.: 01.03048.01.153b  
TEST DATE: 9-MAY-2000  
REPORT DATE: 18-MAY-2000

Submitted by:

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Prepared for:

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SUMMARY OF TEST RESULTS  
ASTM E162

**INTRODUCTION**

This report presents the results of an ASTM E162 test on a specimen submitted by the Client, tested at Southwest Research Institute (SwRI), located in San Antonio, Texas. The test is conducted in accordance with the procedure outlined in ASTM E162-98, "Test for Surface Flammability of Materials Using a Radiant Energy Source."

Test specimens are preconditioned at 140°F for 24 hours followed by stabilization at 70°F and 50-percent relative humidity. The 6 x 18 in. specimen is affixed in a metal frame and the assembly is placed in front of the 12 x 19 in. radiant panel at an inclined angle (30°)--being closer, 4.75 in. at top. A 2 to 3 in. pilot flame impinges on the uppermost area of the specimen and flame propagation advances downward on the specimen. Observations such as dripping, cracking, delamination and distortion are noted and recorded. The Flame Spread Factor ( $F_s$ ), Heat Evolution Factor ( $Q$ ) and Flame Spread Index ( $I_s$ ) are calculated using incremental flame front propagation rates and predetermined radiant panel characterization formulae ( $I_s = F_s \times Q$ ).

The results apply specifically to the specimens tested, in the manner tested, and not the entire production of these or similar materials, nor to the performance when used in combination with other materials.

**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 of 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.**

SUMMARY OF TEST RESULTS  
ASTM E162

Client: ISOVOLTA, Österreichische Isolierstoffwerke AG  
 SwRI Project No.: 01.03048.01.153b

Material ID.:\* HpdI acc. To ISO 4586-CGF [EN438-CGF] - (13 mm)  
 Trade Name:\* MAX COMPACT Laminate FR grade  
 Description:\* Rigid panel from fibrous sheets impregnated with thermosetting resins with decorative colors on both sides (received on April 17, 2000)

Size: Four pieces 6.0 x 18.0 in.  
 Color:\* 74 pastellgrau (pastel grey) FH  
 Thickness: 0.51 in.  
 Mounting: The specimen was removed from the conditioning chamber and wrapped with aluminum foil, and backed with 0.5 in. thick Marinite backer board.  
 Exposure Time: 15 minutes, or until the 15 in. mark and maximum temperatures were reached, whichever occurred first.

\* From Client's description

RESULTS

	TEST 1	TEST 2	TEST 3	TEST 4
BASE TEMP °C	198.0	198.0	198.0	198.0
MAX TEMP °C	205.0	204.0	205.0	207.0
DELTA T °C	7.0	6.0	7.0	9.0
TIME (Min:Sec)				
IGNITION	2:17	2:13	2:19	2:17
3"	--	--	--	--
6"	--	--	--	--
9"	--	--	--	--
12"	--	--	--	--
15"	--	--	--	--

SUMMARY OF TEST RESULTS  
ASTM E162

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Client: ISOVOLTA, Österreichische Isolierstoffwerke AG  
SwRI Project No.: 01.03048.01.153b

ASTM E 162-96

RESULTS (continued)

	TEST 1	TEST 2	TEST 3	TEST 4	AVERAGE
F <sub>s</sub>	1.00	1.00	1.00	1.00	1.00
Q	1.46	1.25	1.46	1.88	1.51
I <sub>s</sub>	1.46	1.25	1.46	1.88	1.51

FLAME SPREAD INDEX

AVERAGE: 2  
RANGE: 1 to 2

Submitted by:

COMMENTS AND OBSERVATIONS

In all runs, there was discoloration to the 10 in. mark and charring to the 3 in. mark. Also, there was blistering, cracks, peeling, and small non-flaming pieces falling onto the floor.

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