

CALCOAST ANALYTICAL-ITL

Materials Chemistry and Lighting Science



Accredited by
National Inst. Of Standards & Tech
American Assoc. of Motor Vehicle Admin.

Certified by
California Department of Health Services



June 17, 1992

Span-World Distribution
301 W. Airline Hwy, Ste 100
LaPlace, LA 70068

ASTM C 177

1. Sample Description:

Product name is TEMP-COAT/Ceramic-Cover.
Two dry films were prepared for the ASTM C177

	<u>Film A</u>	<u>Film B</u>
Weight before testing (grams)	18.4933	16.6056
Weight after testing (grams)	18.4718	16.5771
% weight loss	0.11%	0.17%
Thickness (inches)	0.125	0.111
Density (Lbs/ft ³)	22.61	23.02

COATINGS - BUILDING MATERIALS - LIGHTING DEVICES - HAZARDOUS WASTE
SPECTROSCOPY - CHROMATOGRAPHY - MICROSCOPY - PHOTOMETRICS - FIELD INSPECTION

EMERYVILLE LABORATORY AND OFFICE:

P.O. BOX 8702
4072 WATTS STREET
TEL (510) 652-2979

EMERYVILLE, CA 94662
EMERYVILLE, CA 94608
FAX (510) 652-3085

LOS ANGELES OFFICE:

12304 SANTA MONICA BOULEVARD - SUITE
207 WEST LOS ANGELES, CA 90025
TEL (310) 826-8072 FAX (310) 826-7822

2 Thermo Conductivity Determination using Guarded Hot Plate ASTM C177

a Area Heat transfer 0.0625 ft²

b. Results of thermal Conductivity Measurement'

Test	T _H (° C:	T _C (° C:	Q (W)	K ₁ Wm ⁻¹ K ⁻¹	K ₂ Btu in h ⁻¹ ft ⁻² ° F ⁻¹
1	36.35	28.10	1.3769	0.08615	0.5977
2	46.80	28.10	3.60	0.09928	0.6888
3	58.56	30.16	5.158	0.09375	0.6504

where

T_H is average temperature of hot plate.

T_C is average temperature of cold plate.

K₁ is thermal conductivity in Wm⁻¹K⁻¹

K₂ is thermal conductivity in Btu in h⁻¹ft⁻²° F⁻¹

The average thermal conductivity for this product is 0.6456 Btu in h⁻¹ft⁻²° F⁻¹

3. Determination of R value

$$R = \frac{d}{K}$$

where

d is the thickness.

K is the thermal conductivity in Btu in h⁻¹ft⁻²° F⁻¹

The R value for this product is 24. This value is representative of 15.5 mil of dry film thickness.
(The R value stated above is an equivalency R value).



Antoine Chamsi, Ph.D.
Analytical Chemistry Project Coordinator'