Cambridge
materials testing limited

Product Development
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ISO 17025 Accredited

Report for:	THRUFLOW P.O. Box 40, Stn. Main 1239 Dufferin Avenue, Suite B WALLACEBURG, Ontario N8A 2W3	**Laboratory #:**	**427785B-06** REVISION 3
		Report Date:	October 19th, 2006
		Received Date:	August 24th, 2006
	Phone: 519-627-7428 Ext.112 Fax: 519-627-7428 E-Mail: derekm@thruflow.com	**Customer P.O. #:**	**613**
Attention:	Derek McGivern		

TEST REPORT

PROPERTIES OF THRUFLOW DECKING PANELS

BASELINE FLEXURAL PROPERTIES

1. INTRODUCTION

On August 24th, 2006, CMTL received, a four (4) foot Thruflow Reinforced Polypropylene (RPP) dock panel to determine baseline flexural properties at 73°F as per the request of AXIS Polymer Services Inc.

2. TEST METHOD

The baseline flexural properties were determined in accordance with ASTM D6109-05, Method A procedures modified for quarter point loading and ASTM D7032-05, Section 4.4. The testing parameters used for all ASTM D6109-05 tests are outlined below.

Testing Position	Flatwise	Radius of Support Noses	2”
Nominal Sample Size	48” x 12” x 1.25”	Radius of Loading Noses	1”
Support Span	16”	Testing Machine	United SFM20
Support Span to Depth Ratio	12.8:1	Operating Software	Satec Partner
Testing Speed	0.378 “/minute	Moment of Inertia (I)	0.395 in^4
		Distance from Neutral Axis (Y)	0.731 in

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Per _____ *QUALITY ASSURANCE*

Per _____ *TECHNICIAN*

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2. TEST METHOD (Cont'd)

For each flexural test conducted, the operating software recorded the deflection of the deck board at the mid-span between the supports and the corresponding load. The software calculated the slope of the load-deflection curve between the pre-selected limits corresponding to 10% and 40% of ultimate stress. A counter number was assigned to each sample tested. This counter number is identified in the results.

Five (5) boards were tested at 73+/-3°F. The key properties recorded and calculated for each board sample tested were:

Load at Rupture measured in pounds-force (lbf) – this property was extrapolated from the load-deflection curve at the point where the board samples either ruptured or reached the three percent strain limit

Load at L/180 measured in pounds-force (lbf) – this property was recorded from the load-deflection curve at the deflection corresponding to the support span (L) divided by 180.

Modulus of Rupture (MOR) measured in pounds force per square inch (psi) – this property was calculated using the following equation:

$$MOR = \frac{(\text{Peak Load} \times \text{Support Span} \times \text{Distance from Neutral Axis})}{(8 \times \text{Moment of Inertia})}$$

Slope of Tangent measured in lbf/in – this property was recorded from the load-deflection curve between 10% and 40% of the ultimate stress.

Modulus of Elasticity (MOE) measured in pounds force per square inch (psi) – this property was calculated using the following equation:

$$MOE = \frac{(\text{Support Span}^3 \times \text{Slope of Tangent to Load-Deflection Curve} \times \text{Distance from Neutral Axis})}{(34.9 \times \text{Depth} \times \text{Moment of Inertia})}$$

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3. RESULTS

16" Support Span

Sample I.D.*	Counter Number	Load at Rupture (lbf)	Load at L/180 (lbf)	MOR (psi)	Slope of Tangent (lbf/in)	MOE (psi)
1	19083	2,046	289	7,570	2,792	485,000
2	19085	2,340	280	8,660	2,873	499,000
3	19087	2,312	325	8,560	2,851	495,000
4	19089	1,913	287	7,080	2,695	468,000
5	19091	2,091	267	7,740	2,770	481,000
Mean		**2,141**	**289**	**7,920**	**2,796**	**486,000**
Standard Deviation +/-		**182**	**22**	**674**	**70**	**12,200**