

# TECHNICAL DATA SHEET

Permal  
Gloucester

## PERMAGLASS CARGO LINING

05/12/00 Issue 06

### WFT/4

#### BENEFITS

- ♦ High strength to weight ratio
- ♦ Excellent fire resistance
- ♦ Low smoke and toxic fume emissions
- ♦ Low cost

This product is a woven glass/phenolic cargo bay lining material exhibiting very high strength to weight ratio with exceptional fire, smoke and toxicity properties. The product is approved by McDonnell Douglas to their cargo liner specification DMS-2226 Type 2, Class 1, and is applicable to the DC-10 and MD-80 series aircraft.

#### TYPICAL PROPERTIES

##### Thickness and Weight

Type	Thickness (inches)	Weight lb/sq ft
16	0.019	0.17
25	0.027	0.24
30	0.033	0.32
45	0.045	0.42
60	0.060	0.58

##### Mechanical Properties

Type	Impact (to DMS 2226)	Bolted Joint Strength
16	>16 ft lbs	160 lbs
25	>24 ft lbs	230 lbs
30	>34 ft lbs	305 lbs
45	>34 ft lbs	505 lbs
60	>46 ft lbs	680 lbs

Type	Flexural Strength (psi x 10 <sup>3</sup> )	Flexural Modulus (psi x 10 <sup>6</sup> )
16	Not applicable	Not applicable
25	58 warp 31 fill	3.3 warp 2.7 fill
30	55 warp 36 fill	3.2 warp 2.6 fill
45	57 warp 38 fill	3.7 warp 3.1 fill
60	50 warp 40 fill	3.1 warp 2.8 fill

Permal Gloucester Limited  
Bristol Road  
Gloucester GL1 5TT  
United Kingdom

Telephone +44 (0) 1452 528282  
Fax: +44 (0) 1452 507409  
Internet: <http://www.permali-gloucester.co.uk>

<b>Type</b>	<b>Tensile Strength (psi x 10<sup>3</sup>)</b>	<b>Tensile Modulus (psi x 10<sup>6</sup>)</b>
16	69 warp 47 fill	3.0 warp 1.7 fill
25	73 warp 52 fill	3.5 warp 2.0 fill
30	73 warp 56 fill	3.6 warp 1.7 fill
45	68 warp 56 fill	3.7 warp 3.1 fill
60	71 warp 50 fill	4.5 warp 3.2 fill

### **Durability (Workability) and Machinability**

Warp and Fill all types - Pass

### **Flammability**

Meets the requirements of FAR 25.855 App. F, Part III, Amendment 25-60.

### **Smoke Density**

To NBS technical note 708 in flaming mode.

<u>Time</u>	<u>Density</u>
1.5 minutes	Average 8 all types
4.0 minutes	Average 9 all types

### **Toxicity**

After 4 minutes in NBS smoke chamber Draeger Tube Analysis.

Toxicant	CO	HCN	HF	HCL	SO <sub>2</sub>	NO <sub>2</sub>	
Concentration	127	2	20	0	0	0	ppm

### **Size and Finish**

Standard finish has a white Tedlar film on one side only. Material can be supplied without Tedlar or with Tedlar on both faces on request.

### **Standard Sheet Sizes:**

96" x 48" and 144" x 48"

Other sizes may be available on request.