

## Geneerco Floor #6, Type 32, 33 & 34 Sandwich Structures

### 1. Background

General Veneer Manufacturing Co. has been supplying lightweight materials and products to the aircraft and aerospace industry for over 50 years. With the advent of the wide body commercial airplane, new materials were required to meet their specific needs. We were among the first to use these new materials in production and have continued to develop new configurations.

Flooring materials were one of the major areas of concern to the airframe manufacturers, and Nomex<sup>®</sup> Honeycomb was developed for this application. Nomex<sup>®</sup> core possesses excellent high impact strength and performs superbly on the food cart roller test.

With the new advanced composites being developed, it was natural to combine this lightweight core material with our improved epoxy carbon fiber reinforced laminate for a new concept in bonded composite sandwich panels.

### 2. Product Introduction

Geneerco Floor #6 series is a non-metallic core bonded sandwich panel. This panel offers light weight, high performance, corrosion resistance, flame retardancy, and cost effectiveness in one bonded sandwich panel with reinforced polymer or metallic faces. These qualities make it suitable for use in a wide range of applications such as floors, bulkheads, dividers, galley structures and lavatories.

### 3. Performance

Research and development testing on fatigue properties indicate a long service life can be expected. Geneerco flooring is suitable for many applications and for installations that require quality products at a competitive in-place cost, Geneerco flooring excels.

### 4. Type Identification

Type 32 products utilizes medium density Nomex<sup>®</sup> Honeycomb core, with uni-directional epoxy carbon fiber reinforced skins.

Type 33 products utilizes low density Nomex<sup>®</sup> Honeycomb core, with uni-directional epoxy carbon fiber reinforced skins.

Type 34 combines the light weight of Type 33 with the strength to Type 32 into a versatile dual density panel. Utilizing the combination of both core densities, panels can be configured to meet the specific needs of the customer.

The following tables depict the quality aspects of Geneerco Floor #6, Types 32 and 33.

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### 5. Typical Physical and Mechanical Properties.

Physical Description <sup>①</sup>	Typical Values		Unit
	Geneerco Floor #6	Type 32	
Weight	.58	.46	p.s.f.
Overall Thickness	.400	.400	in.
Skin Thickness	.015	.015	in.
Nominal Core Density	9.0	5.0	p.c.f.
Length • Nominal 96", 120", 144"	Up to 192	Up to 192	in.
Width • Nominal 48", 60", 72"	Up to 72	Up to 72	in.

Panel Strength • Test Method	Typical Values		Unit
	Geneerco Floor #6	Type 32	
Stabilized Compression • MIL-STD-401	1400	600	p.s.i.
Long Beam Bending • MIL-STD-401 (20 in. Span, 1/4 Point Loading)	230	230	lb.
Deflection at 100 lbs.	.550	.575	in.
Climbing Drum Peel	17	17	in-lb/3 in. width
Flammability • 60 Sec. Vertical Ignition	15	15	sec.
Panel Shear • MIL-STD-401	585	360	lb.
Impact	6.0	6.0	in-lb

- ① Panels are available in other thicknesses, widths, lengths and core densities per customer request.
2. Nomex<sup>®</sup> is a registered trademark of DuPont.
3. Qualified to BMS4-20 Type II, Type III and Type IV.