

DESIGN AND SPECIFICATIONS

Description

Fabric is bonded or stretch applied over the face and core of the panel.

Limitations

There are radii limitations for 3-dimensional pre-curved panels. Consult Decoustics for specific data.

Design Considerations

DIMENSIONAL STABILITY (ASTM D6207): Based upon Decoustics test data, polyester, modacrylic, olefin, polyolefin, polypropylene, and blends that are used as a base material are the most stable.

Although any choice of fabric should be tested for dimensional stability, fabrics containing nylon, rayon and silk are less likely to remain stable.

An acrylic or latex backing will not stabilize an otherwise dimensionally unstable fabric.

CUSTOM PRINTS/PATTERNS: Decoustics can accommodate requirements such as murals, corporate logos, other specific designs, matched motifs across abutting panels, and similar custom designs.

MICRO-PERFORATED OR POROLATED BACKING: Micro perforating heavily backed fabrics will not improve acoustic performance. The holes produced tend to recover or close over time. The process of puncturing a fabric was originally developed to reduce mildew and not to enhance acoustics.

Recommended Uses

Can be applied to almost all Decoustics panel types.

For flat, shaped, 2 and 3 dimensional pre-curved panels.

A fabric is the only finish that can be applied to a 3-dimensional dome shaped panel. Consult Decoustics for fabric selection.

Features and Advantages

Can be nicely tailored and finished at corners

Majority of fabrics provide good acoustical transparency when unbacked.

Can be applied to panels with a variety of different edge profiles.

Majority of fabrics have acceptable flame spread properties (ASTM E84).

Specific fabrics, when applied to standard cores & tested as a composite, provide a Class A flame spread (less than 25) when tested in accordance with ASTM E84 criteria.

Can be used for "fold-up" panels while exhibiting seamless corners.

Helps mitigate standard panel tolerances i.e. width and length of +/- 1/16" (1.5mm).

Properties Testing

There are thousands of fabrics on the market, unfortunately not all are suitable. Decoustics fabric testing program identifies fabrics for suitability, risks, and application.

Fabrics are tested for:

- Dimensional stability (ASTM D6207)
- Acoustical transparency (airflow)
- Bondability to core
- Adhesive "wet-out"
- Adhesive "bleed-through"
- Adhesive compatibility
- Telegraphing of core irregularities
- Stretchability
- Edge upholstery characteristics (adhesive compatibility and face bulging via residual memory)
- Color suitability (core show-through resulting in color change or underliner requirement)

If a purchase order is issued, there is no charge for fabric testing. To perform the fabric suitability testing, one linear yard of the specific fabric needs to be shipped to Decoustics.

Decoustics cannot guarantee selected fabrics will remain bubble-free or sag-free if testing uncovers potential limitations. An alternate fabric is always recommended in these instances.

Decoustics White Fabric (DWF-200)

Description

Used primarily as a finish for ceiling panels, DWF-200 is a 100% polyester fabric that can be either bonded to, or stretched over, the panel core. Available in larger panel sizes and can be used for panel types with various edge profiles.

DWF-200 provides good acoustical transparency and good dimensional stability (ASTM D6207). Available in 66" (1675mm) width for use on panels up to 60" (1525mm) wide.

Features and Advantages

Excellent light reflectance (77%).

(Class A) when tested to ASTM E84.

Can be neatly tailored and finished at corners.

Can be applied to panels with a variety of different edge profiles.

No "fly" quality control problems (other colored threads/fibers in weave).

Can be bonded to panel core without adhesive bleed-through.

Can be stretched over panel core without "pull lines".

Can be used for "fold-up" panels while exhibiting seamless corners.

Helps mitigate standard panel tolerances i.e. width and length of +/- 1/16" (1.5mm).

Glossary

PULL LINES: A recent phenomenon, these are visible as sags or wrinkles on stretch applied (and sometimes at the edges of bond applied) fabrics under specific lighting conditions. The fabric is in fact flat, but appears otherwise because light reflects unevenly from the different tensioned (stretched) fibers. Applied fabrics can only be pulled non-uniformly at the edges and these stretch lines/areas show up as "pull lines". Although there is no conclusive evidence as to the cause, fabrics containing unspun fibers, extruded fibers, and crepe type weaves are all susceptible to this phenomenon.

ACOUSTICAL TRANSPARENCY: The ability of sound to pass through the fabric (and into the panel core). If air passes easily through the fabric it will have good acoustical transparency. This is critical if the specified sound absorption requirements of the panels are to be met. Fabrics with a backing will generally have a reduced acoustical transparency.

BLOOMING: Fire retardant treatments are sometimes used on fabrics to achieve fire hazard classification ratings. Some saline based products that are exposed to high levels of humidity (greater than 80% RH) will become soluble. When the humidity returns to more normal levels (below 60% RH), the solution is drawn to the fabric surface, evaporates, and leaves a salt deposit in the form of a noticeable white powder known as "blooming". The white powder is difficult to remove and may discolor the fabric.

PANEL TYPE	THICKNESS	FINISH	MOUNTING	FREQUENCY (Hz)						NRC	SAA
				125	250	500	1000	2000	4000		
AP-General Purpose	1" (25mm)	FR-701	Type F5	0.35	0.41	0.84	1.09	1.09	1.02	0.85	0.84
AP-General Purpose	2" (50mm)	FR-701	Type F5	0.19	0.87	1.20	1.19	1.08	1.03	1.10	1.05
H.I.R.#1 High Impact Resistant	1-1/8" (29mm)	FR-701	Type F5	0.10	0.47	0.91	1.09	1.08	0.97	0.90	0.87
H.I.R.#1 High Impact Resistant	2-1/8" (54mm)	FR-701	Type F5	0.43	0.94	1.16	1.13	1.04	1.01	1.05	1.04
AP-Ceiling Application	1" (25mm)	DWF-200	Type E400	0.39	0.53	0.80	0.97	0.93	0.96	0.80	0.78
AP-Ceiling Application	2" (50mm)	FR-701	Type E400	0.46	0.85	0.97	1.08	1.10	1.11	1.00	1.00

Note: The information provided in this Data Sheet is accurate to the best of our knowledge at the time of printing. However, we reserve the right to make changes when necessary without further notification. Suggested applications may need to be modified to conform with local building codes and conditions. We cannot accept responsibility for products that are not used, or installed to our specifications. Please refer to our website for most current data.

Note: Only handle panels wearing clean, lightweight, white gloves during installation. Follow manufacturer's printed instructions for installation as well as field cutting of panels.

Note: Additional test data is available upon request, contact Decoustics for more information.