

ORCA PRODUCT INFORMATION

ORCA DOUBLE BIAS FABRICS (±45°)

PRODUCT DESCRIPTION

ORCA Double Bias Fabrics are a stitch-bonded composite reinforcement combining equal amounts of continuous fiber oriented in the +45° and -45° directions into a single fabric. This construction offers off-axis reinforcement without the need to rotate other materials on a bias. The versatile fabric, made from high-quality fibers, is available in a variety of widths and weights to meet your particular requirements. The input fibers are designed to give controlled wet-out and excellent laminate properties. Each fabric can be combined with a glass mat or veil for enhanced performance, surface finish or handling.

PRODUCT APPLICATION

ORCA Double Bias Fabrics offer superior structural performance in applications subject to extreme shear and torsion stress. These properties are ideal for applications such as wind blades, marine panels, and snowboards. These fabrics offer improved conformability over biaxial fabrics yet maintain comparable laminate properties, making them ideal for placement within complex parts. Reduced fabric print-through results in enhanced aesthetics on finished products while offering material and labor savings.

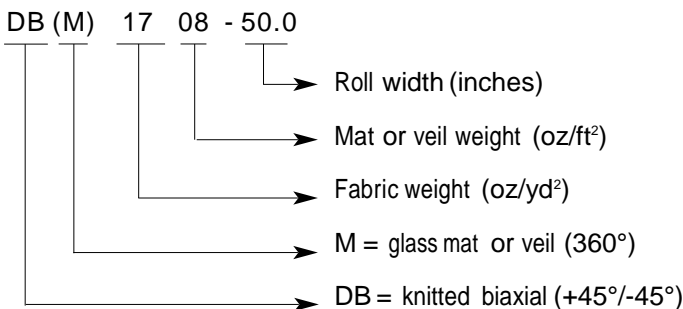
FEATURES

- CRIMP-FREE CONSTRUCTION
- OPPOSING ±45° FABRIC CONSTRUCTION OFFERS RESISTANCE TO TWISTING
- EXCELLENT CONFORMABILITY
- REDUCE PRINT-THROUGH
- CAN BE COMBINED WITH VARIOUS MATS (CONTINUOUS FILAMENT MAT, WET FORMED MAT, CHOPPED STRANDS AND VEIL)
- AVAILABLE IN A VARIETY OF WIDTHS AND WEIGHTS

PRODUCT BENEFITS

- IMPROVED FIBER ALIGNMENT AND MECHANICAL PROPERTIES
- FINISHED PARTS PERFORM UNDER EXTREME SHEAR AND TORSION STRESS
- IMPROVED PLACEMENT IN COMPLEX PARTS
- ENHANCED AESTHETICS WITH MATERIAL AND LABOR SAVINGS
- IMPROVED PRINT-THROUGH, COST-EFFECTIVE SECONDARY BONDING, AND HANDLING
- OFFERS SOLUTIONS FOR WIDE RANGE OF APPLICATIONS

PRODUCT NOMENCLATURE



PHYSICAL PROPERTIES / AVAILABLE PRODUCTS

FABRIC STYLE	TOTAL WEIGHT (OZ/YD ²)	0°	90°	+45°	-45°	MAT	DRY THICKNESS (INCHES)
DB120	11.6	0	0	5.6	5.6	0	0.021
DBM1208	19.3	0	0	5.6	5.6	7.6	0.037
DB170	17.6	0	0	8.6	8.6	0	0.029
DBM1708	24.9	0	0	8.6	8.6	7.6	0.044
DBM1708G	24.9	0	0	8.6	8.6	7.6	0.044
DBM1715	31.2	0	0	8.6	8.6	13.5	0.049
DBM1715G	31.2	0	0	8.6	8.6	13.5	0.049
DB240	24.7	0	0	12.1	12.1	0	0.034
DBM2408	32.3	0	0	12.1	12.1	7.6	0.048
DBM2408G	32.3	0	0	12.1	12.1	7.6	0.048
DBM2415	38.2	0	0	12.1	12.1	13.5	0.057
DBM2415G	38.2	0	0	12.1	12.1	13.5	0.057

SAMPLE MECHANICAL PROPERTIES

Sample Mechanical Properties of Laminate based on DB170
(50% glass content by weight).

	ENGLISH UNITS	SI UNITS
Tensile (ASTM D 638)		
Strength	39.8 ksi	274 MPa
Modulus	2.18 msi	15.0 GPa
Compression (ASTM D 695)		
Strength	36.6 ksi	252 MPa
Modulus	2.06 msi	14.2 GPa
Flexural (ASTM D 790)		
Strength	69.9 ksi	482MPa
Modulus	2.00 msi	13.8 GPa

Sample Mechanical Properties of Laminate based on
DBM1708 (50% glass content by weight).

	ENGLISH UNITS	SI UNITS
Tensile (ASTM D 638)		
Strength	39.8 ksi	274 MPa
Modulus	2.18 msi	15.0 GPa
Compression (ASTM D 695)		
Strength	36.6 ksi	252 MPa
Modulus	2.06 msi	14.2 GPa
Flexural (ASTM D 790)		
Strength	69.9 ksi	482 MPa
Modulus	2.00 msi	13.8 GPa

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