

# OC® FABRICS OC® BIAXIAL FABRICS (0°/90°)

### PRODUCT DESCRIPTION

OC<sup>®</sup> Biaxial Fabrics (0°/90°) are a stitch-bonded, non-crimp, composite reinforcement comprised of unidirectional warp (0°) and weft (90°) plies. Stitch-bonded fabrics eliminate fiber crimp inherent in woven products; this increases fiber alignment, allowing for stronger, stiffer laminates at lighter weights while minimizing the formation of resin-rich pockets. Stitch-bonded fabrics also provide improved laminate surface quality. *OC Biaxial Fabrics* can be engineered for specific applications requiring different ratios of warp to weft reinforcement.

All *OC Biaxial Fabrics* are available with a stitch-bonded mat, including chopped strand mat, direct chop (binderless) mat, continuous filament mat, and veil. The versatile fabric, made from high-quality fibers, is available in a variety of widths and weights to meet any 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 or surface finish.

## PRODUCT APPLICATION

*OC Biaxial Fabrics* offer improved stiffness without added weight or laminate thickness for high-performance structural laminates. Reduced fabric print-through results in enhanced aesthetics on finished products while offering material and labor savings. These versatile fabrics have been used in a wide array of composite applications, including boat hulls, truck and trailer panels, wind blades, recreational sporting equipment and bridge decks. Since the concentration of reinforcement in each direction can be engineered, *OC Biaxial Fabrics* can be considered the reinforcement of choice when the critical design criteria is mechanical performance.

FEATURES	PRODUCT BENEFITS
CRIMP-FREE CONSTRUCTION	IMPROVED FIBER ALIGNMENT AND MECHANICAL PROPERTIES
OPTIMIZED DIRECTIONAL FIBER CONTENT	REDUCED RESIN USAGE AND PART WEIGHT
HIGH BI-DIRECTIONAL STRENGTH, STIFFNESS, AND FLEX	IMPROVED PERFORMANCE FROM LIGHTER LAMINATES
• REDUCE PRINT-THROUGH	ENHANCED AESTHETICS WITH MATERIAL AND LABOR SAVINGS
AVAILABLE IN A VARIETY OF WIDTHS AND WEIGHTS	OFFERS SOLUTIONS FOR WIDE RANGE OF APPLICATIONS

### PRODUCT NOMENCLATURE





### PHYSICAL PROPERTIES / AVAILABLE PRODUCTS

FABRIC STYLE	total weight (OZ/YD²)	0°	90°	+ 45°	-45°	MAT	DRY THICKNESS (INCHES)
CD120	12.7	5.8	6.0	0	0	0	0.023
CDM1208	20.3	5.8	6.0	0	0	7.6	0.036
CDM1608G	23.8	10.4	5.5	0	0	7.6	0.045
CD180	21.5	10.3	10.6	0	0	0	0.034
CDM1808	29.2	10.3	10.6	0	0	7.6	0.049
CDM1815	35.1	10.3	10.6	0	0	13.5	0.067
CD240	26.0	13.9	11.9	0	0	0	0.042
CDM2408	34.1	13.8	12.1	0	0	7.6	0.059
CDM2415G	39.6	13.9	11.9	0	0	13.5	0.065
CDM3205G	40.4	15.7	17.7	0	0	6.8	0.059
CDM3208G	41.2	15.7	17.7	0	0	7.6	0.056
CDM3610G	44.6	17.4	17.4	0	0	9.0	0.065

### SAMPLE MECHANICAL PROPERTIES

Sample Mechanical Properties of Laminate based on **CDM1808** (50% glass content by weight).

Sample Mechanical Properties of Laminate based on CDM2415 (50% glass content by weight).

	ENGLISH UNITS	si units				
Tensile (ASTM D 638)						
Strength	37.2 ksi	256 MPa				
Modulus	2.10 msi	14.5 GPa				
Compression (ASTM D 695)						
Strength	30.2 ksi	208 MPa				
Modulus	1.83 msi	12.6 GPa				
Flexural (ASTM D 790)						
Strength	61.0 ksi	420 MPa				
Modulus	2.30 msi	15.8 GPa				

	ENGLISH UNITS	21 ON112			
Tensile (ASTM D 638)					
Strength	35.2 ksi	243 MPa			
Modulus	2.06 msi	14.2 GPa			
Compression (ASTM D 695)					
Strength	31.3 ksi	216 MPa			
Modulus	1.97 msi	13.6 GPa			
Flexural (ASTM D 790)					
Strength	58.6 ksi	404 MPa			
Modulus	1.95 msi	13.4 GPa			



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