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(GFRC) Glass Fiber Reinforced Concrete Specifications

GFRC section specifications detail material composition (alkali-resistant glass fibers, Portland cement, aggregates, pigments) and physical properties like 1/8" to 1" thickness, 1000-1800 PSI flexural strength, 5000 PSI compressive strength, and +/- 1/8" dimensional tolerance, emphasizing lightweight durability, weather resistance, and often including features like custom finishes for commercial or residential use.

A. Material Composition

1. Cement: Type I, II, or III per ASTM C150
2. Fibers: Alkali-resistant (min 16% Zirconia), 1-2 inches long, for GFRC.
3. Aggregates: Fine sand as per ASTM C144.
4. Admixtures: Water reducers, retarders/accelerators (ASTM C494).
5. Colorants: ASTM C979.

B. Physical Properties & Performance

1. Thickness: 3/8" to 1", varies by size/reinforcement.
2. Density: Around 130 PC (pounds per cubic foot).
3. Flexural Strength: 1000-1800 PSI.
4. Compressive Strength: 5000+ PSI.
5. Modulus of Elasticity: ~200 KSI (200,000 PSI).
6. Weathering: No significant strength loss after accelerated weathering (ASTM G23).
7. Fire Rating: ASTM E84 (Flame spread O, smoke developed 5).
8. Dimensional Tolerances: +/- 1/8" for overall dimensions; +/- 1/16" per foot for flatness.

C. Construction & Features

1. Fabrication: Spray-laminate method, with a strong face mix and reinforced backer.
2. Reinforcement: Fibers embedded in the mix; larger units may use steel trames.
3. Drainage: Pre-drilled holes (e.g., 1-5/8") or field-drilled by contractor.
4. Finishes: Integral color, custom finishes, or patina options.