

# Transforming Modular & Offsite Construction

with Advanced Composites



# ADVANCED COMPOSITES FOR BUILDING & CONSTRUCTION



**Hammerhead™ FR Flame Retardant Composite Panels & Laminates**



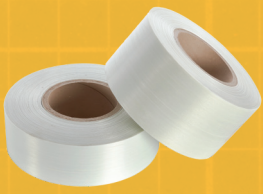
**Hammerhead™ & Polystrand™ Composite Panels**



**GlasArmor™ & ThermoBallistic™ Ballistic Panels**



**Polystrand™ Continuous Fiber Laminates**



**Polystrand™ Continuous Fiber Tapes**



**Garage Doors**  
Impact & corrosion resistance; high flexural strength; customized dimensions & finishes; weatherability; UV stability; weight reduction



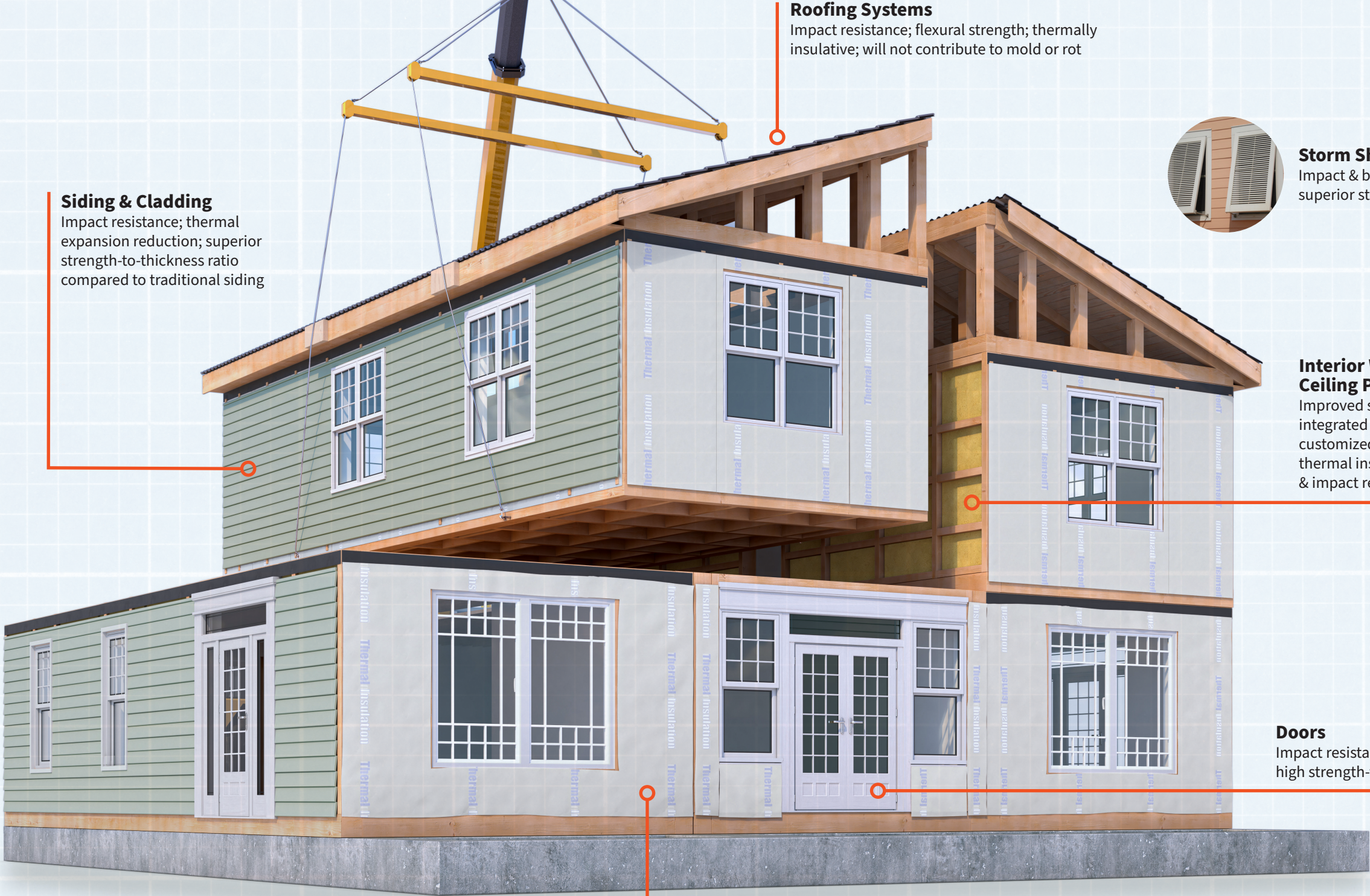
**Flood Barriers**  
Moisture & corrosion resistance; durable; will not contribute to mold growth



**Composite Decking & Lumber**  
Reinforcements for increased strength; material & weight reduction



**Safe/Panic Rooms**  
Ballistic & impact resistance



**Siding & Cladding**  
Impact resistance; thermal expansion reduction; superior strength-to-thickness ratio compared to traditional siding

**Roofing Systems**  
Impact resistance; flexural strength; thermally insulative; will not contribute to mold or rot



**Storm Shutters**  
Impact & ballistic resistance; superior strength-to-weight ratio

**Interior Wall, Floor, & Ceiling Panel Systems**  
Improved structural integrity; integrated fire protection; customized dimensions & finishes; thermal insulation; water, pest, & impact resistance

**Doors**  
Impact resistance; ballistic resistance; high strength-to-weight ratio

**Exterior Sheathing**  
Continuous insulation; impact, moisture & rot resistance; lightweight construction



**Cabinetry & Storage**  
Weight reduction; customized dimensions & finishes



MATERIAL SOLUTION	DESCRIPTION	KEY CHARACTERISTICS	POTENTIAL APPLICATIONS
Hammerhead™ FR Flame Retardant Composite Panels	Industry-first flame retardant thermoplastic composite panels that meet ASTM E84 Class A standards for flame spread and smoke developed and configurations available to meet NFPA 286 corner room burn testing	<ul style="list-style-type: none"> <li>• Excellent flame performance</li> <li>• Moisture, UV, corrosion, impact, and rot resistant</li> <li>• Lightweight structural integrity</li> <li>• Reduce labor cost and time</li> </ul>	<ul style="list-style-type: none"> <li>• Interior Wall, Floor &amp; Ceiling Panel Systems</li> <li>• Garage Doors</li> <li>• Interior &amp; Entry Doors</li> <li>• Exterior Sheathing</li> <li>• Siding &amp; Cladding</li> <li>• Kitchen Cabinetry</li> </ul>
Hammerhead™ and Polystrand™ Composite Panels	Thermoplastic composite panels constructed with Polystrand™ continuous fiber laminates thermally bonded to thermoplastic foam or honeycomb cores	<ul style="list-style-type: none"> <li>• Moisture, UV, corrosion, impact, and rot resistant</li> <li>• Lightweight structural integrity</li> <li>• Reduce labor cost and time</li> </ul>	<ul style="list-style-type: none"> <li>• Garage Doors</li> <li>• Interior Entry Doors</li> <li>• Interior Wall, Floor &amp; Ceiling Panel Systems</li> <li>• Exterior Sheathing</li> <li>• Siding &amp; Cladding</li> <li>• Kitchen Cabinetry</li> </ul>
Polystrand™ Continuous Fiber Tapes & Laminates	High strength unidirectional (UD) glass fibers combined with thermoplastic resins available in unidirectional tapes or multi-ply laminates	<ul style="list-style-type: none"> <li>• High strength and stiffness</li> <li>• Enables impact resistance</li> <li>• Formulations available to meet ASTM E84 Class A and Class B flame/smoke rating</li> </ul>	<ul style="list-style-type: none"> <li>• Composite Decking</li> <li>• Interior &amp; Entry Doors</li> <li>• Roofing Systems</li> </ul>
GlasArmor™ Ballistic Resistant Panels	Ballistic protection constructed from layers of 0°/90° woven E-glass fiber reinforcements with a proprietary thermoset resin system	<ul style="list-style-type: none"> <li>• UL 752 Level 1–3 compliant</li> <li>• Less than 25% the weight of comparable steel panel</li> <li>• 1-hr fire rating per ASTM E119*</li> </ul>	<ul style="list-style-type: none"> <li>• Safe/Panic Rooms</li> <li>• Garage Doors</li> <li>• Interior &amp; Entry Doors</li> </ul>
ThermoBallistic™ Thermoplastic Panels	Industry-first thermoplastic ballistic resistant panels thermally formed with layers of 0°/90° UD E-glass fiber reinforcements and polyolefin-based resin systems	<ul style="list-style-type: none"> <li>• UL 752 Level 3 compliant</li> <li>• Extremely lightweight</li> <li>• Moisture, UV, and corrosion resistant</li> </ul>	<ul style="list-style-type: none"> <li>• Safe/Panic Rooms</li> <li>• Garage Doors</li> <li>• Interior &amp; Entry Doors</li> </ul>

\* UL Level 3 panel was fire tested as part of a wall system with steel studs and drywall facesheet

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