



# FORMTECH

CUSTOM PLASTIC PROFILE EXTRUSIONS

## WOOD PLASTIC COMPOSITE

PVC COMBINED WITH NATURAL FIBER



Wood plastic composite (WPC) materials combine thermoplastic materials, such as PVC, polyethylene, or polypropylene, with natural fibers, such as wood. WPC has a lower coefficient of thermal expansion, a higher heat deflection temperature, and a higher modulus of elasticity than thermoplastics. This makes WPC an excellent choice for outdoor applications with varying weather conditions, temperature ranges, and other environmental exposures. In addition, these materials are generally resistant to rot, decay, and insects.

For decades, WPC has been used in products in the United States and Europe and are a proven solution for several industries including fenestration (windows, entry doors, and patio doors), garage doors, fencing, trim and molding, railing, decking and spa surrounds. WPC's products are also lower maintenance, environmentally-friendly and recyclable.

Formtech has over 30 years of experience in extruding products with WPC. To ensure the best fit for your application, WPC's can be custom-formulated to consider the properties and specifications most important to you.

- Your custom formulation can be extruded into custom profiles, including complex, hollow products with tight tolerances.
- Profiles can be embossed with wood grain or a custom texture, and/or they can be extruded with other materials (including flexible materials or custom-colored cap stocks) to provide functional and aesthetic advantages.
- Some WPC's can be painted or stained with consumer products, providing flexibility and an aesthetic advantage most thermoplastic materials alone cannot offer.

*Example of a custom formulation for a leading manufacturer of windows and doors*

	ASTM Test	PVC	30% Wood PVC WPC
Specific Gravity	D-792	1.46	1.39
Shrinkage: 180°F @311 hrs	N/A	3.50%	0.27%
Heat Deflection Temp @266 psi	D-648	156°F	164-175°F
Coefficient of Linear Expansion	N/A	$3.7 \times 10^{-5}$	$1.3-1.6 \times 10^{-5}$
Tensile Strength (psi)	D-638	6,200	4,000
Tensile Young Modulus (psi)	D-638	390,000	241,600
Tensile Elongation @ Break	D-638	N/P	1.61
Flexural Modulus	D-790	350,000	565,400
Flexural Strength (psi)	D-790	11,000	6,000
Notched Izod (ft lb/in)	D-256	17	0.6-0.8

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