



Recycled HDPE
Plastic Lumber vs.
Wood/Composites

Plastic vs. Wood/Plastic Composites

Plastic lumber made from recycled polyethylene, reinforced with chopped glass fiber or GRP (glass reinforced plastic) rebar, does not rot, split, or chip. It is also ideal for long-term immersion in water.

Wood/plastic composites (WPCs) are wood in a plastic matrix. They overcome some disadvantages of natural wood, but composites will still decay and rot over time, particularly when damp. Newer composite products include an extra layer of plastic on top to try to better encapsulate the wood from the environment. However, when you cut the board to length, the cut surface exposes those wood particle fibers to the environment.

	Wood	Composite (WPC)	Recycled HDPE Plastic Lumber
50-year warranty (depending on the manufacturer)			√√
Insect and borer resistant			√√
Rot and decay resistant	√*		√√
Load bearing and structural	√√		√√
Non-splintering		√	√√
Low friction			√√
Maintenance free			√√
Color stability			√√
Non-leaching/toxin-free			√√
Recycled feedstock		√	√√
Recyclable	√	√	√√
Long-term aesthetics			√√

*Chemical treatments required

Plastic vs. Wood: Traits

Recycled HDPE plastic lumber:

- loses stiffness as the temperature rises; the temperature of a board in sunlight will be much greater than the air temperature.
- expands in all directions as the temperature rises; it expands the most in length in its longest direction.
- contracts in all directions as the temperature cools; it shrinks the most in length in its longest direction.
- creeps over time. Creep is defined as the deformation of a product, due to the weight of the board plus any load placed upon it, for an extended length of time. This is more often than not the sizing factor of a board in a dead load application. Recycled HDPE plastic lumber, when loaded properly within the design limits, will deform slightly at the onset and minimally thereafter.

All materials (including wood) have these traits, but not nearly as predominantly as with plastic lumber.