

# Stainable, Paintable Non-Corrosive, Increased Hardness



## TimberSIL® Accepts Paints and Stains Well

Our weathering studies of paints and stains, examples shown below, shows that TimberSIL® accepts stains and performed to standards in an accelerated weathering study.



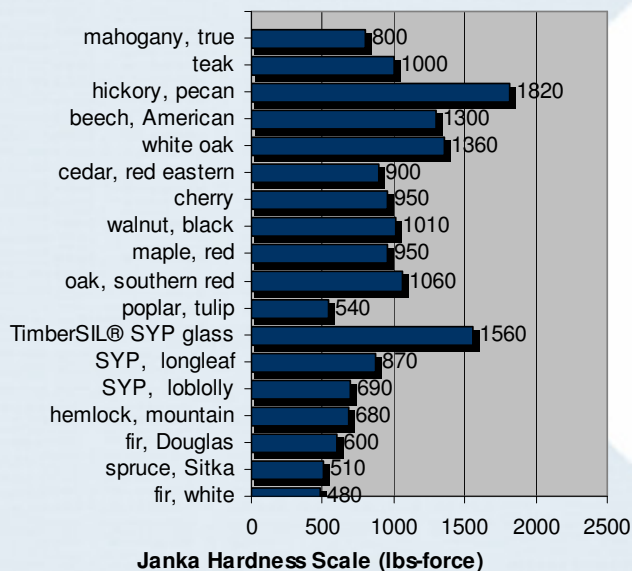
## TimberSIL® is Non-Corrosive to Fasteners

Both wood and glass portions of TimberSIL® provide protection from corrosion. There is no need for special hangers or fasteners. Consumers can use everyday, ordinary exterior grade connectors and fasteners.

Property	Results	Test Method/Protocol
Corrosivity	AWPA E12-94 mil/yr, non-corrosive:	< 0.2

## TimberSIL® SYP Fusion Products Have Greatly Increased Hardness

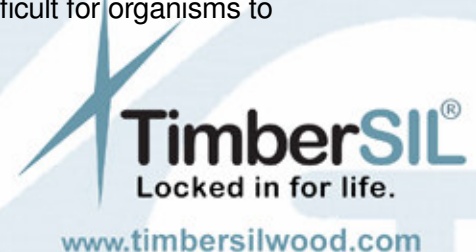
TimberSIL, Increased Hardness



The TimberSIL® fusion of wood and glass creates a product that is approximately twice as hard as the wood we start with. As measured by the Janka Scale, left, the hardness of southern yellow pine increases from 690-870 lbs-force (range depends on species), to 1560 lbs-force, approximately double.

TimberSIL® Wood Products are harder than all softwoods, and become harder than most hardwoods, as shown at left.

The resistance of TimberSIL® Wood Products to attack by organisms is due to the protective barrier of the product, and also due to the greatly improved strength of the fibers and the face of the wood, which makes it much more difficult for organisms to penetrate the wood.



# Product Specification Sheet

TimberSIL® wood/glass fusion products are exceptionally strong, resistant to fire, and durable, in addition to providing an effective barrier that is resistant to rot, decay and common wood problems.

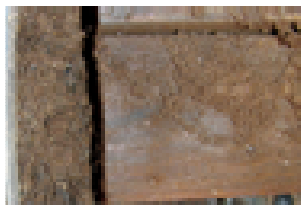
A key feature of TimberSIL®'s patented technology is insolubility. TimberSIL®'s glassy matrix will not dissolve in water, no matter how long it is soaked, no matter how long it is exposed to the elements.

Properties	Test Method/Protocol	Results
Class A Fire Retardant	ASTM E84	Meets standard for Class A fire retardant
Flame & smoke Spread, Class A	ASTM E84	Meets or exceeds standards
Resistance to heat transfer	ASTM E84	Resistance to heat transfer greater than non-flammable control
Strength (rupture) MOR (psi)	ASTM D4761, ASTM D143	up to 9 times greater than composite products
Strength (elasticity) MOE (psi)	ASTM D4761, ASTM D143	up to 15% greater than kiln-dried lumber; up to 30% greater than treated wood; up to 12 times greater than composite products
Fastener Holding Strength	ASTM D-1037	30% greater than composite products, up to 75% greater than treated wood
Stains: 10 yr accelerated weathering, TimberSIL® stain samples (5 types)	ASTM G151	Meets or exceeds standards; no blistering, no loss of coating
TimberSIL® wood: 10 yr accelerated weathering	ASTM G151	Meets or exceeds standards; no rot, no decay, wood silvering
Corrosivity	AWPA E12-94	Non-corrosive; results similar to untreated control
Density (specific gravity)	ASTM D2395	Similar to KD-19 wood, 40-100% lighter than composite products,
Termite Resistance	AWPA E1-97, ASTM D3345-74; ASTM D 1758; AWPA E7-93	Formosan Termite Grade 10-9.5 Sound, No Weight Loss
Resistance to Decay (field)	ASTM D 1758; AWPA E7-93	Decay Grade 10 Sound, No Weight Loss
Resistance to decay (laboratory)	Flemer et al, Hydrobiologia. 485(1-3):83-96. (ERL,GB 1080). Kurtz, et al, Environ. Toxicol. Chem. 17(7):1274-1281. (ERL,GB 1004)	Decay Grade 10, unchanged
Insolubility	Molybdate spectrometry	Insoluble
Chemical Structure Analysis	X-ray diffraction	Composed of non-toxic amorphous glass; no crystalline structure present
Cellular Structure Analysis	polarized light microscopy	Cellular fibers resistant to maceration

## Detrital Microcosm Study:



**After 30 days: showing  
Leaf & Twig Litter, Soil  
& Swampy Debris**



**After 12 months:  
Mold, Bacteria, and Fungi  
grow on top of wood**



**After 12 Months:  
Wood after cleaning  
No Rot!**