

TECHNICAL BULLETIN

Understanding Deck Board Surface Temperatures

Deck Surface Safety

When skin is exposed to temperatures as low as 109 degrees Fahrenheit for an extended period or 176 degrees Fahrenheit for a brief moment, it can cause burns. Therefore, the temperature of the deck surface is a critical health and safety factor to consider when selecting deck materials.

The following surface temperature charts provide guidance on deck surface heat retention, safety, and comfort. These measurements were taken on three different days in August 2017 in Lexington, MA, when the ambient temperature was 80 degrees Fahrenheit.

Summary: The darkest wood decking, Ipe, had a surface temperature of 122 degrees Fahrenheit, while polyethylene, PVC, and acrylic cap stock decking reached temperatures as high as 156 degrees. It appears that deck color significantly influences the surface temperatures of composite decking.

Deck Board Temperatures

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Manufacturer	Series	Material Cap/Core	Color	Light / Dark	13 Aug 1:20 pm Sunny	Degress above air (80°)	T Range within Series	Density: Oz/Cu In
°F								
1	DuraLife	Landscape	Cap Stock (wood/PPL)	Pebble	Light	114.2		0.4167
	DuraLife	Landscape	Cap Stock (wood/PPL)	Coastal grey	L12	116		0.5871
	DuraLife	Landscape	Cap Stock (wood/PPL)	Slate	Med Dk	123.7		0.5724
	DuraLife	Landscape	Cap Stock (wood/PPL)	Mahogany	Dark	127		0.4177
	DuraLife	Landscape		Ave. Temp.	120.23	40.23	12.80	
2	TimberT	Reliaboard	Composite (Wood/PE)	Grey	Light	117		0.6674
	TimberT	Twin Finish	Composite (Wood/PE)	Cedar	L12	122		0.7208
	TimberT	Twin Finish	Composite (Wood/PE)	Grey	Light	124.8		0.7407
	TimberT	Twin Fin./Reliab.		Ave. Temp.	121.27	41.27	7.80	
3	DuraLife	Hardwoods	Cap Stock (wood/PPL)	Golden Teak	Med	119.1		0.5955
	DuraLife	Hardwoods	Cap Stock (wood/PPL)	Brazilian Cherry	Dark	123.6		0.5903
	DuraLife	Hardwoods	Cap Stock (wood/PPL)	Garappa Gray	Med Dk	127.4		0.5808
	DuraLife	Hardwoods	Cap Stock (wood/PPL)	Tropical Walnut	Dark	128.2		0.5903
	DuraLife	Hardwoods		Ave. Temp.	124.58	44.58	9.10	
4	Azek	Harvest	PVC & agrifibre	Brownstone 5/4x6	Light	126.4		0.3738
	Azek	Harvest	PVC & agrifibre	Slate grey	Light	128.6		0.3617
	Azek	Harvest uncapped		Ave. Temp.	127.5	47.5		
5	TimberT	Terrain	Cap Stock (wood/PE)	Sandy birch	Light	125		0.5424
	TimberT	Terrain	Cap Stock (wood/PE)	Stone Ash	L12	126.2		0.5469
	TimberT	Terrain	Cap Stock (wood/PE)	Silver maple	Med	133.2		0.5210
	TimberT	Terrain	Cap Stock (wood/PE)	Silver maple	Med	133.6		0.5324
	TimberT	Terrain	Cap Stock (wood/PE)	Brown oak	Dark	135		0.5375
	TimberT	Terrain	Cap Stock (wood/PE)	Rustic elm	V Dk	135.2		0.5411
	DuraLife	Hardwoods		Ave. Temp.	131.37	51.37	10.20	
6	Fiberon	Good life	Cap Stock (Wood/PE)	Villa	Med Lt	129		0.5178
	Fiberon	Good life	Cap Stock (Wood/PE)	Cottage	Med Lt	130.6		0.5072
	Fiberon	Good life	Cap Stock (Wood/PE)	Cabin	Med	134.6		0.5072
	Fiberon	Good Life		Ave. Temp.	131.4	51.4	5.6	
7	TimberT	Legacy	Cap Stock (wood/PE)	Tigerwood	Med	130.6		0.6443
	TimberT	Legacy	Cap Stock (wood/PE)	Pecan	Med	132		0.6630
	TimberT	Legacy	Cap Stock (wood/PE)	Ashwood	Med Dk	134.2		0.6484
	TimberT	Legacy	Cap Stock (wood/PE)	Mocha	Dark	137.2		0.6581
	TimberTech	Legacy		Ave. Temp.	133.5	53.5	6.60	
8	TimberT	Tropical	Cap Stock (wood/PE)	Antigua Gold	Med	131		0.6637
	TimberT	Tropical	Cap Stock (wood/PE)	Amazon mist	Med dk	135		0.6650
	TimberT	Tropical	Cap Stock (wood/PE)	Caribbean redwd	Dark	136		0.6616
	TimberT	Tropical	Cap Stock (wood/PE)	Antique Palm	Med	136.8		0.6693
	TimberTech	Tropical		Ave. Temp.	134.7	54.7	5.8	

Test conducted by Advantage Design and Construction of Boston, MA