

TECHNICAL BULLETIN

Understanding Deck Board Surface Temperatures

Deck Surface Safety

Skin can burn when exposed to temperatures as low as 109 degrees Fahrenheit over long-term exposure and 176 degrees Fahrenheit in less than a second. Because of this, the temperature of the deck surface is a health and safety issue that should be considered when choosing deck materials.

The following surface temperature charts are a guide to deck surface heat retention, safety, and comfort. These measurements are averages of temperatures taken on three different 80-degree Fahrenheit days in August of 2017 in Lexington, MA. Summary: Ipe, the darkest wood decking, registered a surface temperature of 122 degrees versus polyethylene, PVC, and acrylic cap stock decking, registering surface temperatures as high as 156 degrees. Deck color seems to have a significant impact on composite decking surface temperatures.

Deck Board Temperatures									
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	Manufacturer	Series	Material Cap / Core	Color	Light / Dark	13 Aug 1:20 pm Sunny	Degrees above air (80°)	T Range within Series	Density: Oz/ Cu In
0	°F								
1	DuraLife	Landscape	Cap Stock (wood/ PPL)	Pebble	Light	114.2			0.4167
	DuraLife	Landscape	Cap Stock (wood/ PPL)	Coastal grey	Lt2	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	Lt2	122			0.7208
	TimberT	Twin Finish	Composite (Wood/PE)	Grey	Light	124.8			0.7407
			TimberT	Twin Fin./Reliabd	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:	127.50	47.50		
5	TimberT	Terrain	Cap Stock (wood/PE)	Sandy birch	Light	125			0.5424
	TimberT	Terrain	Cap Stock (wood/PE)	Stone Ash	Lt2	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	
			TimberTech	Terrain	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:	131.40	51.40	5.60	
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:	133.50	53.50	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:	134.70	54.70	5.80	

TROPICAL

	Manufacturer	Series	Material Cap / Core	Color	Light / Dark	13 Aug 1:20 pm Sunny 80°	Degrees above air (80°)	T Range within Series	Density: Oz/ Cu In
9	34	Fiberon	Horizon	Cap Stock (wood/PE)	Castle grey	Light	127.4		0.5932
	35	Fiberon	Horizon	Cap Stock (wood/PE)	Ipe	Med Lt	132.4		0.5797
	36	Fiberon	Horizon	Cap Stock (wood/PE)	Rosewood	Dark	135		0.6044
	37	Fiberon	Horizon	Cap Stock (wood/PE)	Tudor Brown	Dark	144		0.6003
			Fiberon	Horizon			Ave. Temp:	134.70	54.70
10	38	Trex	Transcends	Cap Stock (wood/PE)	Gravel Path	Med	128		0.6434
	39	Trex	Transcends	Cap Stock (wood/PE)	Treehouse	Med	135		0.6474
	40	Trex	Transcends	Cap Stock (wood/PE)	Fire Pit	Dark	136.4		0.6394
	41	Trex	Transcends	Cap Stock (wood/PE)	Vintage Lantern	Dark	142		0.6498
			Trex	Transcends			Ave. Temp:	135.35	55.35
11	42	Fiberon	Protect	Cap Stock (wood/PE)	Chestnut	Dark	135.6		0.6076
	43	Fiberon	Protect	Cap Stock (wood/PE)	Gray Birch	Med Dk	136		0.5235
			Fiberon	Protect			Ave. Temp:	135.80	55.80
12	44	Fiberon	Symmetry	Cap Stock (wood/PE)	Cinnabar	Med	136		0.6049
	45	Fiberon	Symmetry	Cap Stock (wood/PE)	Warm Sienna	Md Lt	136.2		0.6051
	46	Fiberon	Symmetry	Cap Stock (wood/PE)	Graphite	Med Dk	137.6		0.5839
		Fiberon	Symmetry			Ave. Temp:	136.47	56.47	2.00
13	47	Azek	Arbor	PVC	Hazelwood	Light	125.4		0.3580
	48	Azek	Arbor	PVC	Silver Oak	Lt2	133		0.3674
	49	Azek	Arbor	PVC	Morado	Md Lt	140		0.3675
	50	Azek	Arbor	PVC	Brazilian walnut	Dark	143.3		0.3396
	51	Azek	Arbor	PVC	Acacia	Dark	145.6		0.3789
		Azek	Arbor			Ave. Temp:	137.46	57.46	20.20
14	52	Fiberon	Paramount	PVC/(PVC)	Fossil	Light	136.6		0.3712
	53	Fiberon	Paramount	PVC/(PVC)	Mineral	Light	137.6		0.3598
	54	Fiberon	Paramount	PVC/(PVC)	Sandstone	Med	137.6		0.3732
	55	Fiberon	Paramount	PVC/(PVC)	Flagstone	Med	145.2		0.3922
	56	Fiberon	Paramount	PVC/(PVC)	Brownstone	Med	148		0.4091
		Fiberon	Paramount			Ave. Temp:	141.00	61.00	11.40
15	57	Azek	Vintage	PVC	Cypress	Med	140.6		0.3693
	58	Azek	Vintage	PVC	Dark Hickory	Dark	143.6		0.3533
		Azek	Vintage			Ave. Temp:	142.10	62.10	3.00
16	59	Zuri		Acrylic over PVC	Chestnut	Light	132.6		0.4038
	60	Zuri		Acrylic over PVC	Wheathered gray	Med Lt	143.4		0.3687
	61	Zuri		Acrylic over PVC	Walnut	Med Dk	144.8		0.3661
	62	Zuri		Acrylic over PVC	Pecan	Med Dk	149.2		0.3813
	63	Zuri		Acrylic over PVC	Brazilia	Dark	156.2		0.4419
		Zuri				Ave. Temp:	145.24	76.20	23.60
64	Wood	Alaskan Yellow cedar	5/4x6	untreated		5/4	106	26.0	0.3093
65	Wood	STK Cedar	5/4 x 6	untreated			108.8	28.8	0.2771
66	Wood	Cambara	1x4	untreated			120	40.0	0.3417
67	Wood	A+ Cedar	5/4 x 6	untreated			120.6	40.6	0.2200
68	Wood	Ipe	1x4	untreated			122.4	42.4	0.6429
69	Wood	PT SYP	5/4 x 6	Treated			127	47.0	0.3147
70	Brick	Common					107	27.0	1.3714
71	Con Paver	Belgard	Holland	Fossil (light)			111.8	31.8	1.1325
72	Concrete	40 yr old patio					112	32.0	

Test conducted by Advantage Design and Construction of Boston, MA