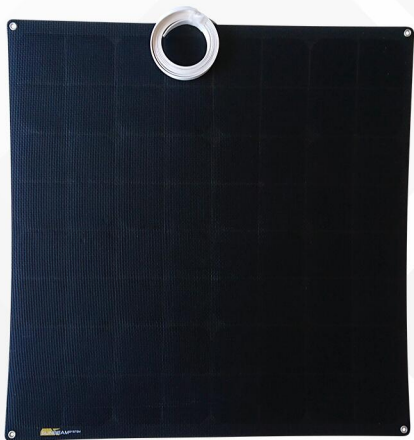


TOUGH

BLACK SERIES



TOUGH 55W FLUSH BLACK



TOUGH 78W FLUSH BLACK



TOUGH 55W LONG FLUSH BLACK

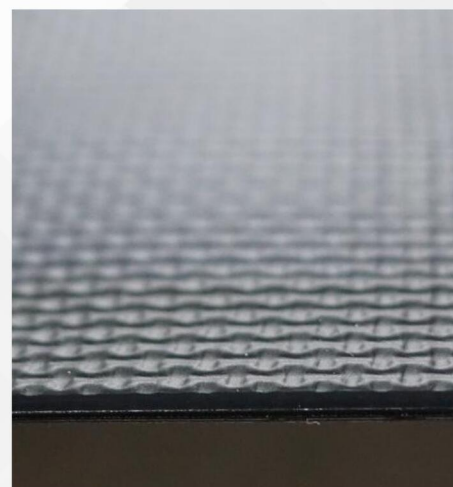
BLACK DESIGN PANEL

2020 FLAT FLUSH CABLE

UV-PROOF & ANTISLIP

POWERFUL & COMPACT

5 YEAR WARRANTY



THE BEST TOUGH FEATURES BUT WITH A DISCREET BLACK LOOK

The SUNBEAMsystem Tough Black series has been designed to look both inconspicuous and elegant at the same time. Developed with the intention to integrate perfectly in the looks of both modern yachts and historical ships. Best suited for applications that put an emphasis on aesthetics: Tough Black pleases both the eye as well as your battery level.

With their dark appearance, the Tough Black panels will blend in on any even colored background. Whether this background is pure white or a classic brown: nobody will suspect there's a solar panel hidden behind the all-black surface.

For a truly seamless surface integration, you can use the Tough Black Hole filler. An identical material without any cells that can be cut to size to fill up any irregular shapes surrounding the panels.

The Tough Black series provides you with the same advantages as the normal Tough series but offers two additional models: the 55W Long Flush and the 114W Flush. For installation, we advise black flexible glue like Sikaflex 291i.

Art. #	Model	W _p	Shadow Optimized	Size (cm)	Sunpower Cell	Max system voltage (incl by pass diode)	V _{mp}	I _{mp}	V _{oc}	I _{sc}	P _{tot} +/-	Kg	Cable	Eyelets
TBlackHole	Tough Black Hole	0		106x54										No
T106x54F-Black	Tough Black 111W Flush	110.8	Yes	106x54	> 22.5%	30V (65V)	18.56	5.97	21.76	6.32	3%	2	1.5m	6x6mm
T79x74F-Black	Tough Black 114W Flush	114.3	Yes	78.5x74	> 22.5%	30V (65V)	19.14	6.16	22.44	6.52	3%	2.1	1.5m	No
T78x54F-Black	Tough Black 78W Flush	78.4	Yes	77.8x54	> 22.5%	30V (65V)	19.72	3.98	23.12	4.48	3%	1.5	1.5m	4x6mm
T54x53F-Black	Tough Black 55W Flush	55.4	Yes	54.5x53.5	> 22.5%	30V (65V)	19.50	2.98	21.76	3.16	3%	1	1.5m	4x6mm
T106x27F-Black	Tough Black 55W Long Flush	55.4	Yes	106x27.7	> 22.5%	30V (65V)	19.50	2.82	25.11	3.16	3%	1	1.5m	No