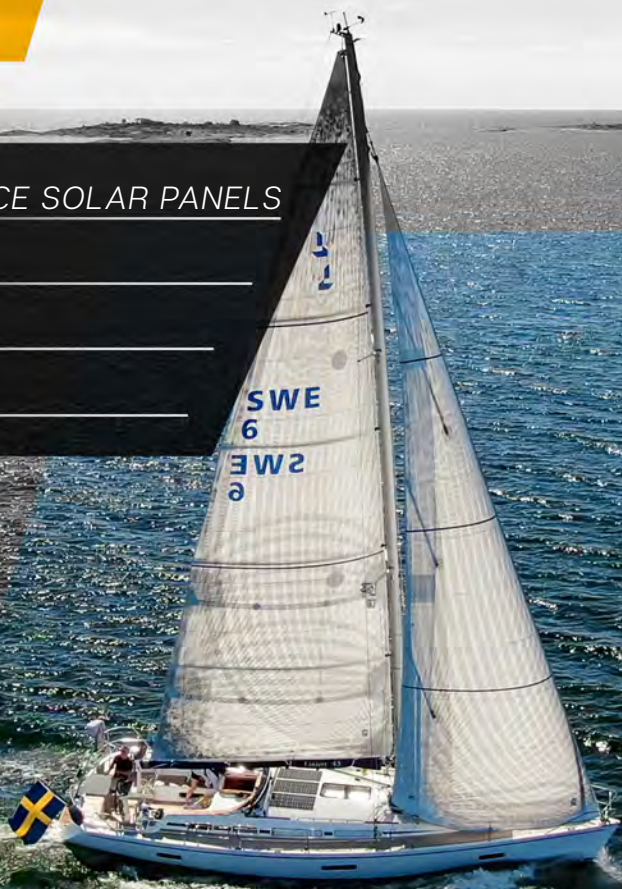


SUNBEAM^{SYSTEM}

CATALOGUE 2021

HIGH PERFORMANCE SOLAR PANELS



WWW.SUNBEAMSYSTEM.COM



INNOVATIVE POWER SOLUTIONS SWEDISH TECHNOLOGY AND QUALITY



Picture by Rosättra Båtvärv | Linjett 43

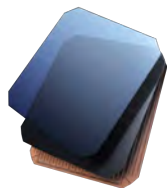
The Swedish company SUNBEAMsystem is renowned for its power solutions. Innovation is our main driving force - simply the pure will to always lead the race.

We take pride in distinguishing ourselves with a series of unique products and features that you will not find elsewhere.

We strive for high quality and performance, but always with the aim that our products should solve a problem. Achieving this goal in a discrete manner while offering a pleasant user experience.

No matter if you are based in the arctic or tropic regions: we offer a cutting edge solution in all circumstances.

PREMIUM SOLAR PANELS



THE BEST SOLAR CELLS

SUNBEAMsystem only uses highly efficient Sunpower™ solar cells, with our top range cells featuring the highest possible efficiency: a world record 25.2%.



TOUGH SURFACE

Made by extremely durable materials, the Tough surface catches more light than glass. Walkable and antislip with unrivaled UV-protection.



UPGRADED CELL PROTECTION

All our 2021 models have been structurally improved by a stronger and more sturdy cell protection.

FLUSH 2021 EDITION

The newest iteration of the invisible flat flush cable features a reinforced cable integration to ensure a perfect result.



SHADOW OPTIMIZED

Our unique Shadow Optimized technology performs best in shadow-rich environments, ensuring the highest possible yield aboard yachts.

UNIQUE 5-YEAR WARRANTY MODELS RANGE

THE TOUGH SERIES

TOUGH++ | TOUGH + | TOUGH

Multiple tests winner, premium walkable panels with antislip surface, invisible flush cable and shadow optimized technology.

THE BLACK SERIES

TOUGH+ BLACK | TOUGH BLACK

The best tough features, but with a discreet black look. The premium design option for full deck integration.

REINFORCED SERIES

CARBON TOUGH+

The long-life solar panel for canvas & bimini, with internal carbon fiber stiffener.

THE PORTABLE SERIES

TOUGH FOLD SERIES

A truly portable solar panel. Lightweight & waterproof.

*Fold series features 2 years warranty.

TOUGH++

THE BEST AND MOST EFFICIENT SOLAR PANEL ON THE MARKET!

Mark Slats, a born adventurer and epic athlete. In 2017 he broke the world record for rowing solo across the Atlantic. Arriving after just 30 days, he slashed the previous record by an impressive 22 days and left his competition far behind. In 2020 he won the TWAC again with his teammate Kai, setting another world record.

Out on the open ocean, you are fully dependent on your equipment. Therefore, Mark had his boat outfitted with the best solar panels available. Lightweight, highly durable, and extremely efficient: when aiming for gold SUNBEAMsystem Tough++ is the winning choice.

Mark Slats & Kai Wiedmer
Team Row4Cancer - TWAC 20/21
Pictures: EVABLOEM

TOUGH++ | WORLD RECORD EFFICIENCY AT 25.2%

Tough++ is a state-of-the-art solar panel, with the newest and most powerful technology currently available. Built with the best materials to ensure it is resilient against the most demanding circumstances.



TOUGH+

DEVELOPED FOR PROFESSIONAL APPLICATIONS

SUNBEAMsystem Tough+ has been developed for professional purposes and high-end applications. Fitted with Sunpower™ cells with an impressive 23.7% efficiency, these models are the premier choice for users who place high demands on their materials.



Tough+ can be seamlessly integrated on any hard surface, providing a safe anti-slip surface to walk on. Featuring no eyelets, but instead shipped with a 3M mounting sticker sheet. Combined with the flat and invisible Flush cable, the Tough+ series is the perfect solution for yacht deck installations.



	Tough++ 126W
Shadow Optimized	Yes
Size (cm)	106x54
Weight (Kg)	2.5
Cable	Flush - 2m

	Tough+ 116W	Tough+ 82W	Tough+ 58W	Tough+ 39W
Shadow Optimized	Yes	Yes	-	-
Size (cm)	106x54	77.8x54	54x54	37.8x53.5
Weight (Kg)	2.6	1.9	1.3	0.7
Cable	Flush - 2m	Flush - 2m	Flush - 2m	Flush - 2m

TOUGH+

BLACK SERIES

FULL DECK INTEGRATION

Tough+ Black is the designer solution for high-end yachts. Developed to cover atypical deck surfaces with an uninterrupted layer of black solar panels. Featuring no eyelets and fitted with Sunpower™ cells with an insane 24.4% efficiency.



TOUGH

BLACK SERIES

The Tough Black series is the all-round solution for users aiming for an inconspicuous solar installation. With their full black appearance they blend in with any background. State of the art Tough panels incorporating 22.5% efficient Sunpower™ cells that outshines the competition.



BLACK DESIGN PANELS
AESTHETIC INTEGRATION
VISUAL DECK UPGRADE
CUSTOM SHAPES

BLACK HOLE GAP FILLER

Tough Black Hole is an aesthetic filler to fill up the space between solar panels. It allows you to seamlessly cover a part of the deck, without the need for large and expensive custom panels. Never before have solar panels resulted in a visual upgrade for your yacht!



	Tough 114W B	Tough 111W B	Tough 78W B	Tough 55W B	Tough 55W Long
Shadow Optimized	Yes	Yes	Yes	Yes	Yes
Size (cm)	78.5x74	106x54	77.8x54	54x54	106x27.7
Weight (Kg)	2.6	2.5	1.9	1	1
Cable	Flush - 1.5m	Flush - 1.5m	Flush - 1.5m	Flush - 1.5m	Flush - 1.5m
Eyelets	No	6x6mm	4x6mm	4x6mm	No

	Tough+ 116W B	Tough+ 82W B	Tough+ 46W Long B
Shadow Optimized	Yes	Yes	Yes
Size (cm)	106x54	77.8x54	85x27.7
Weight (Kg)	2.6	1.9	0.8
Cable	Flush - 2m	Flush - 2m	Flush - 2m

CARBON

DURABLE & LONG-LIFE

As the result of years of development, there is finally a truly durable solution for using solar panels on a canvas surface: SUNBEAMsystem Carbon. The Carbon series allows you to transform your sprayhood and bimini into efficient solar power generators.

Mounting solar panels on a canvas has always been a challenge. Using thin, flexible and lightweight panels seem to be the perfect solution, but will always lead to a shortened lifespan. Due to the lack of structural support solar panels develop all kinds of problems. The alternative, building a steel structure to mount glass solar panels, is not an appetizing option for most yacht owners.

ENTER THE CARBON SERIES:

Protected design with an internal Carbon fiber plate. Light as not to burden the cloth and Stiff to provide structural integrity, protecting the precious interior.

Exquisite Sunpower™ cells provides an unbeatable amount of Watt per area. Combined with our Shadow Optimized technology, ensuring a better output during partial shadowing.



QUICK FIX
BUTTONS



LIGHT & STIFF
CARBON FIBER



5 YEARS
WARRANTY



A LONG LIFE SOLAR PANEL FOR CANVAS & BIMINI

With attention to detail in all aspects, the Carbon panels cannot be more suited for its intended use. The snap fasteners allow for a quick and easy mounting and the waterproof MC4 electrical connectors ensure a safe connection. The edges are made from a soft rubber like material to protect the fabric.

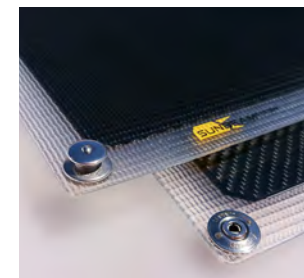
CHOOSE FROM BUTTON OR VELCRO ATTACHMENT

For general use you can simply attach button fasteners in the fabric yourself. Advanced users, experiencing hard winds or high speeds, can opt for the Carbon Velcro Batten. Spreading out the forces on the fabric with its large area velcro.

	T+ Carbon 116W	T+ Carbon 82W	T Carbon 55W
Shadow Optimized	Yes	Yes	Yes
Size (cm)	107.8 x 55.4	79.6x55.4	56.3x55.4
Weight (Kg)	2.8	2	1.4
Cable	7dm+MC4	7dm+MC4	7dm+MC4
Eyelets	6 x QuickFix	6 x QuickFix	4 x QuickFix



CARBON SERIES VIDEO



SUNBEAMSYSTEM

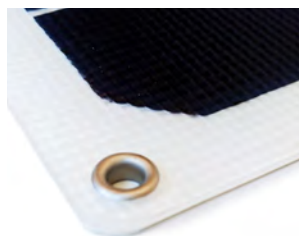
TOUGH

WINNER IN MULTIPLE REAL-LIFE TESTS

Since its introduction, the SUNBEAMsystem Tough series has been the absolute winner in multiple real-life tests. Due to the wide range of different models, the Tough series provides a universal solution for numerous applications. The Tough surface is the preferred choice for the yachting industry, but also for industrial off-grid purposes.

All Tough models are fitted with Sunpower™ cells with an efficiency of 22.5% or higher. The surface of the Tough series is extremely durable and resistant to strong and long UV exposure. It transmits more light than standard materials, contributing to a higher daily production. The ribbed profile provides a steady grip when walking on the panel, but also catches more light in low sun angles. In addition, all Tough models from 55W and up are equipped with SUNBEAMsystems protected Shadow Optimized technology, improving output in partially shaded conditions.

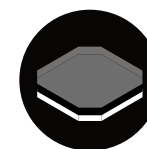
Tough models equipped with a flat Flush power cable are by far the best choice for marine installations. The anti-slip profile provides a safe and walkable surface, without any cables to trip on.



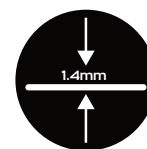
HIGH EFFICIENCY
SOLAR CELLS



ANTISLIP
SURFACE



2021 UPGRADED
CELL PROTECTION



INVISIBLE 2021
FLUSH CABLE



5 YEARS
WARRANTY

	Tough 111W	Tough 78W	Tough 55W	Tough 37W	Tough 21W	Tough 21W Long
Shadow Optimized	Yes	Yes	Yes	-	-	-
Size (cm)	106x54	77.8x54	54x54	37.8x53.5	43.4x27.7	14.7x85
Weight (Kg)	2.6	1.9	1.3	0.7	0.3	0.3
Cable	Flush - 1.5m	Flush - 1.5m	Flush - 1.5m	Flush - 1.5m	Flush - 1.5m	Flush - 1.5m
Eyelets	6x6mm	4x6mm	4x6mm	4x6mm	4x6mm	No



TOUGH SERIES VIDEO

TOUGH

FOLD SERIES

POWER YOUR ADVENTURES

Tough Fold is the perfect companion for tough adventures. Whether you are out enjoying nature or surviving the city jungle: our Fold panels got you covered. Available in three different sizes to power any charging need.

The Tough Fold panels are extremely small when folded, with the largest 124.5W model only being as small as a laptop! They are fully laminated, meaning they are waterproof and well protected against dust and dirt. The waterproof MC4 connectors feature a quick release system to easily connect to your charging equipment.



SMART POWER STATION

This compact powerbank features an array of options to power your every need. Want to try how true remote working feels? Or enjoy a fresh drink at the beach? With the Smart Power Station you never run out of charge.

Featuring LiFePO4 cells it packs a whopping 154Wh capacity, while still being portable and light enough to fit your bag. It holds enough capacity to charge modern laptops three times over via its USB-C 60W PD port, but also features two standard USB ports so you can connect multiple devices simultaneously. We have even included a 12V cigarette socket to power your mobile fridge!



The Smart Power Station may be charged in +4 hours by either USB-C PD or incl. adapter or any solar panel directly. Combine the Smart Power Station with a Tough Fold panel and you will get the Swiss knife equivalent of power solutions.

MINI-R

Combined with our extremely small Mini-R charge controller you have got the most portable battery charging system one can find. This tiny controller might be the smallest 65W solar charge controller you have ever seen! Using the included adapter cables you can connect it directly to a 12V battery to instantly start charging.



	Tough Fold 124.5W	Tough Fold 62W	Tough Fold 41.5W	Tough Fold 21W
Size Folded (cm)	42 x 29	42 x 28.5	30 x 28	30.5 x 16
Size Unfolded (cm)	171.5 x 42	85 x 42	84 x 30	47 x 30.5
Weight (Kg)	2.6	1.3	1	0.45
Cable	Short +MC4	Short +MC4	Short +MC4	Short +MC4
Eyelets	4 x 9mm	4 x 9mm	4 x 9mm	4 x 9mm



FOLD SERIES VIDEO

TOUGH++

ART #	MODEL	W _p	SHADOW OPT	SIZE (cm)	SUNPOWER CELL	MAX SYS VOLTAGE*	V _{mp}	I _{mp}	V _{oc}	I _{sc}	PTOL +\-	Kg	FLUSH CABLE
TPP106x54FS	Tough++ 126W	125.8	Yes	106x54	25.20%	30V (80V)	20.48	6.08	23.264	6.45	3%	2.5	2m

TOUGH+

TP106x54FS	Tough+ 116W	116.1	Yes	106x54	23.7%	30V (80V)	19.87	5.84	23.07	6.5	3%	2.5	2m
TP78x54FS	Tough+ 82W	82.3	Yes	77.8x54	23.7%	30V (80V)	21.12	3.9	24.52	4.36	3%	1.9	2m
TP54x54FS	Tough+ 58W	58.1	-	54x54	23.7%	30V (80V)	19.87	2.92	23.07	3.08	3%	1.3	2m
TP38x53FS	Tough+ 39W	38.7	-	37.8x53.5	23.7%	30V (80V)	19.88	1.95	23.08	2.05	3%	0.7	2m

TOUGH+ BLACK

TP106x54FS-B	Tough+ B 121W	121	Yes	106x54	24.40%	30V (80V)	20.16	6.01	23.17	6.43	3%	2.5	2m
TP78x54FS-B	Tough+ B 86W	85.7	Yes	77.8x54	24.40%	30V (80V)	21.42	4	24.52	4.36	3%	1.9	2m
TP85x27FS-B	Tough+B 46W L	46.2	yes	85x27.7	24.40%	30V (50V)	22.68	2.03	25.96	2.41	3%	0.8	2m

TOUGH SERIES

ART #	MODEL	W _p	SHADOW OPT	SIZE (cm)	SUNPOWER CELL	MAX SYS VOLTAGE*	V _{mp}	I _{mp}	V _{oc}	I _{sc}	PTOL +\-	Kg	FLUSH CABLE (M)	EYELETS 6mm
T106x54FS	Tough 111W	110.8	Yes	106x54	22.6%	30V (65V)	18.56	5.97	21.76	6.32	3%	2.6	1.5	6
T78x54FS	Tough 78W	78.4	Yes	77.8x54	22.6%	30V (65V)	19.72	3.98	23.12	4.48	3%	1.9	1.5	4
T54x54FS	Tough 55W	55.4	Yes	54x54	22.6%	30V (65V)	19.5	2.82	21.76	3.16	3%	1.2	1.5	4
T38x53FS	Tough 37W	36.9	-	37.8x53.5	22.6%	30V (50V)	18.57	1.99	21.77	2.11	3%	0.7	1.5	4
T28x43FS	Tough 21W	20.8	-	43.4x27.7	22.6%	30V (50V)	20.88	0.99	24.48	1.19	3%	0.3	1.5	4
T15x85FS	Tough 21W L	20.8	-	14.7x85	22.6%	30V (50V)	20.88	0.99	24.48	1.19	3%	0.3	1.5	No

TOUGH BLACK

ART #	MODEL	W _p	SHADOW OPT	SIZE (cm)	SUNPOWER CELL	MAX SYS VOLTAGE*	V _{mp}	I _{mp}	V _{oc}	I _{sc}	PTOL +\-	Kg	FLUSH CABLE (M)	EYELETS 6mm
T106x54FS-B	Tough B 111W	110.8	Yes	106x54	22.6%	30V (65V)	18.56	5.97	21.76	6.32	3%	2.6	1.5	6
T79x74FS-B	Tough B114W	114.3	Yes	78.5x74	22.6%	30V (65V)	19.14	6.16	22.44	6.52	3%	2.6	1.5	-
T78x54FS-B	Tough B 78W	78.4	Yes	77.8x54	22.6%	30V (65V)	19.72	3.98	23.12	4.48	3%	1.9	1.5	4
T54x54FS-B	Tough B 55W	55.4	Yes	54x54	22.6%	30V (65V)	19.5	2.82	21.76	3.16	3%	1.2	1.5	4
T106x27FS-B	Tough B 55W L	55.4	Yes	106x27.7	22.6%	30V (65V)	19.5	2.82	21.76	3.16	3%	1.2	1.5	-

CARBON / QUICK FIX

ART #	MODEL	W _p	SHADOW OPT	SIZE (cm)	SUNPOWER CELL	MAX SYS VOLTAGE*	V _{mp}	I _{mp}	V _{oc}	I _{sc}	PTOL +\-	Kg	CABLE 7dm	FIXING
TPC 107x55QF	Tough+ 116W Carbon	116.1	Yes	107.8 x 55.4	23.70%	45V (80V)	19.87	5.84	23.07	6.15	3%	2.8	+MC4	6xQF
TPC 79x55QF	Tough+ 82W Carbon	82.3	Yes	79.6 x 55.4	23.70%	30V (80V)	21.12	3.9	24.52	4.36	3%	2	+MC4	6xQF
TC 56x55QF	Tough 55W Carbon QF	55.4	Yes	56.3 x 55.4	22.6%	45V (45V)	19.5	2.82	25.11	3.16	3%	1.4	+MC4	4xQF

*Max System Voltage Include By-Pass-Diode

PRODUCTS SPECS TABLES

FOLD SERIES

ART #	MODEL	W _p	FOLD SIZE (cm)	UNFOLD SIZE (cm)	SUNPOWER CELL	V _{mp}	I _{mp}	V _{oc}	I _{sc}	PTOL +\-	MAX SYS VOLTAGE	Kg	SHORT CABLE	EYELETS 9mm
22.6%	T Fold 124.5W	124.5	42 x 29	171.5x42	22.6%	20.88	5.97	24.48	6.32	3%	30V	2.6	+ MC4	4
TZ85x42	T Fold 62W	62	42 x 28.5	85x42	22.6%	20.88	2.99	24.48	3.16	3%	30V	1.3	+ MC4	4
TZ86x30	T Fold 41.5W	41.5	30 x 28	84x30	22.6%	20.88	1.99	24.48	2.11	3%	30V	1	+ MC4	4
TZ47x30	T Fold 21W	20.75	30.5 x 16	47x30.5	22.6%	20.88	0.99	24.48	1.19	3%	30V	.45	+ MC4	4

MAXA

ART #	MODEL	W _p	SHADOW OPT	SIZE (cm)	SUNPOWER CELL	V _{mp}	I _{mp}	V _{oc}	I _{sc}	PTOL +\-	MAX SYS VOLTAGE	Kg	FLUSH CABLE
X106x54FS-B	Maxa Black 109W	109.1	Yes	106x54	22.3%	18.432	5.92	21.696	6.29	4%	30V	2	1.5m
X106x54FS	Maxa 109W	109.1	Yes	106x54	22.3%	18.432	5.92	21.696	6.29	4%	30V	2	1.5m
X54x53FS	Maxa 54W	54	Yes	54.5x53.5	22.3%	20.224	3.06	25.74	2.75	4%	30V	1	1.5m
X106x27FS	Maxa 54W Long	54	Yes	106x27.7	22.3%	20.224	3.06	25.74	2.75	4%	30V	1	1.5m

NORDIC

ART #	MODEL	W _p	SHADOW OPT	SIZE (cm)	SUNPOWER CELL	V _{mp}	I _{mp}	V _{oc}	I _{sc}	PTOL +\-	MAX SYS VOLTAGE	Kg	CABLE	EYELETS 6mm
N106x54JB	Nordic 104W JB	104	Yes	106x54	Yes	17.55	5.93	22.69	6.34	5%	30V	2	7dm+MC4	6
N106x54F	Nordic 104W	104	Yes	106x54	Yes	17.55	5.93	22.69	6.34	5%	30V	2	Flush 1.5m	-
N54x53F	Nordic 54W	54	Yes	54.5x53.5	Yes	19.6	2.76	25.74	3.06	5%	30V	1	Flush 1.5m	-
N54x53JB	Nordic 54w JB	54	Yes	54.5x53.5	Yes	19.6	2.76	25.74	3.06	5%	30V	1	7dm+MC4	4

BLACK HOLE GAP FILLER

ART #	MODEL	SIZE	FIXING	CELLS
TBlackHole	Tough Black Hole	106x54 cm	Not included	No Cells
TPBlackHole	Tough+ Black Hole	106x54 cm	Included 3M Adhesive	No Cells

EXPLANATION OF LISTED VALUES

All values are measured in standard testing conditions:

- 1000W/M2, 1.5 atm, 25° Celsius
- Temperature coefficient Isc = 0.05 (%/°C)
- Temperature coefficient Voc = 0.27 (%/°C)
- Temperature coefficient Pmax = 0.29 (%/°C)

Weight: Listed weights without cables.

P_{max} is the maximal attainable power.

V_{oc} (Voltage open circuit), also referred to as the clamping voltage, is the maximum voltage when no load is connected.

I_{sc} (Ampere short circuit) is the maximum current when the panel is short circuited.

V_{mp} (Voltage maximum power) is the maximum voltage a panel produces under ideal circumstances.

I_{mp} (Ampere maximum power) is the maximum current a panel produces under ideal circumstances.

INFORMATION ON DIFFERENT OPTIONS AND CORRECT MOUNTING CAN BE FOUND IN THE KNOWLEDGE BANK ON THE SUNBEAMSYSTEM WEBSITE



MAREX 360 CC

SUNBEAMSYSTEM

TECHNOLOGY TO POWER
YOUR ADVENTURES

Annapolis Hybrid Marine

Marine Propulsion & Energy Systems

www.annapolishybridmarine.com

info@annapolishybridmarine.com • 410-353-4348

WWW.SUNBEAMSYSTEM.COM