



RAPDACH

PHOTOVOLTAIC BALUSTRADES

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ABOUT US

WE ARE THE PRODUCER OF THE INTERIOR AND EXTERIOR BALUSTRADES, WINTER GARDENS, GLASS CANOPIES, LOFT-TYPE DOORS, GLASS WALLS, TERRACE ROOFS AND BALUSTRADE ELEMENTS. RAPDACH RUNS PROJECTS ALL OVER POLAND, EUROPEAN UNION AND SCANDINAVIA. WE ALSO OFFER INSTALLATION SERVICE ALL OVER EUROPEAN UNION AND SCANDINAVIA. WE PROVIDE TIPS AND ADVICES HOW TO PROPERLY INSTALL OUR PRODUCT FOR CLIENTS THAT WANT TO DO IT THEMSELVES AND SAVE A LOT OF FUNDS. IF YOU WANT TO SEE ALL OF OUR PRODUCTS WE INVITE YOU TO VISIT OUR SHOWROOM OR WEBSITE

WWW.RAPDACH.COM



33-333
PTASZKOWA 957
POLAND

HOW TO ORDER ?



1. CHOOSE THE PRODUCT YOU'RE INTERESTED IN.



2. CALL OR E-MAIL US TO GET THE PRICING!



3. WHEN YOU ACCEPT THE PRICING, WE WILL REQUIRE PRECISE MEASUREMENTS. IF YOU NEED HELP WE CAN SEND OUR ENGINEER TO YOU.



4. AFTER RECEIVING PROJECT FROM US, LET US KNOW IF IT MEETS YOUR EXPECTATIONS.



5. THEN WE WILL TAKE CARE OF THE PRODUCTION AND SAFE DELIVERY OF YOUR ORDER.

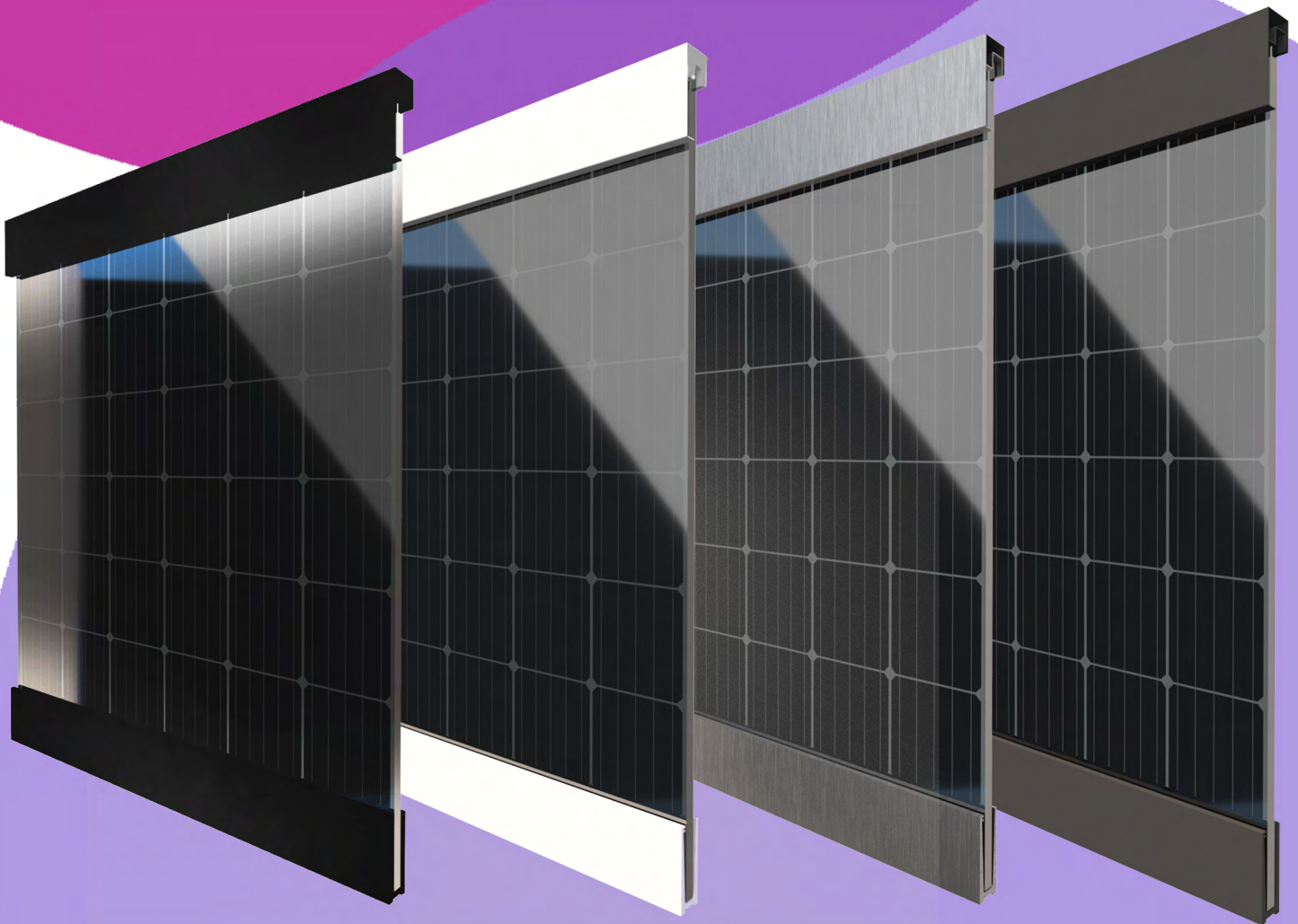


6. LAST STAGE IS THE INSTALLATION. WE CAN DO IT FOR YOU OR YOU CAN DO IT YOURSELF - WE WILL PROVIDE YOU WITH HELPFUL TIPS. PLEASE GIVE US YOUR FEEDBACK!



COLOR VARIANTS

PHOTOVOLTAIC BALUSTRADE **RAPTOR** IS AVAILABLE IN FOUR COLOR VARIANTS - FROM WHITE TO BLACK AND IN CLASSICAL SATIN VERSION.



BALUSTRADE
RAPTOR BLACK
RAL 9005

BALUSTRADE
RAPTOR WHITE
RAL 9003

BALUSTRADE
RAPTOR SATIN
RAL 9006 INOX

BALUSTRADE
RAPTOR ANTHRACITE
RAL 7016

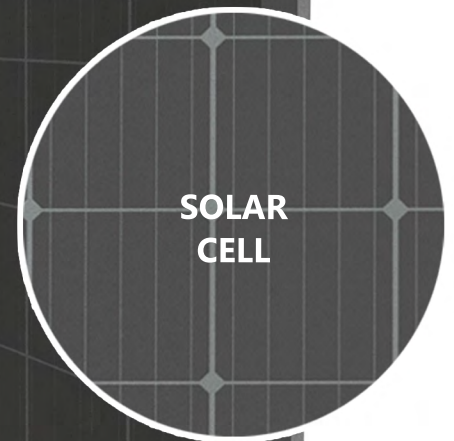
GLASS

GLASS FOR PHOTOVOLTAIC BALUSTRADE **RAPTOR** WAS DESIGNED TO PRESERVE ALL OF THE AESTHETICS VALUES OF THE **PREMIUM** GLASS BALUSTRADE. IT PROVIDES THE USER WITH THE HIGHEST LEVEL OF SAFETY, QUALITY AND EFFICIENCY OF THE GLASS PHOTOVOLTAIC PANEL.

CONNECTOR MC4



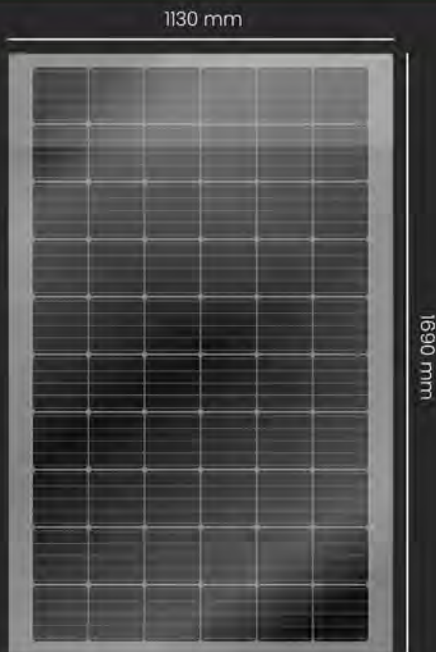
GLASS ESG/OPT/VSG
88.4 (17,52MM)
GRAPHITE



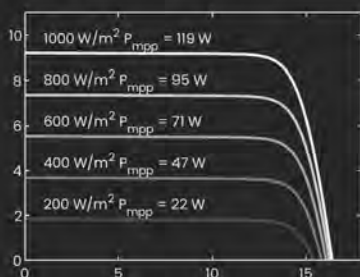
SOLAR
CELL

GLASS PHOTOVOLTAIC
PANELS **RAPTOR**

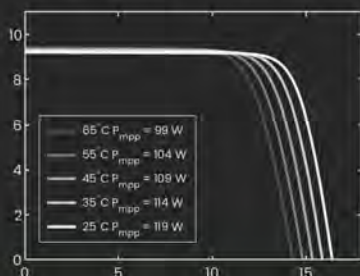
PANEL'S WIDTH	PANEL'S HEIGHT	POWER
720 MM	1130 MM	110 Wp
1050 MM	1130 MM	160 Wp
1370 MM	1130 MM	220 Wp
1690 MM	1130 MM	270 Wp



Lighting characteristics



Temperature characteristics



MATERIALS AND MECHANICAL PARAMETERS

Monocrystalline cells	60 pcs. front contact Busbar: 5 Size: 156.75x156.75±0.5
Cell color	Black
Cell filling	76.1%
Front glass	8mm Low Iron ESG
Back cover	8mm Light Grey ESG
Encapsulant	PVB
Frame type	Frameless
Dimensions	1690x1130±5 mm
Weight	81.6±0.5 kg
Junction box	IP67, connector MC-4 compatible

WORKING CONDITIONS

Temperature	-45 do 85 °C
Max. Charge	5400/2400 Pa
Impact resistance	Hail: 25mm, 23m/s, 7.5g
Protection class	Class II: (application class A)

ELECTRICAL PARAMETERS

ELECTRICAL VALUES MEASURED AT STANDART TEST CONDITIONS (STC): 1000W/m2, TEMPERATURE 25C, AM 1.5 , TOLERANCE OF ELECTRICAL PARAMETERS 3%, POSITIVE POWER TOLERANCE TOLERANCE

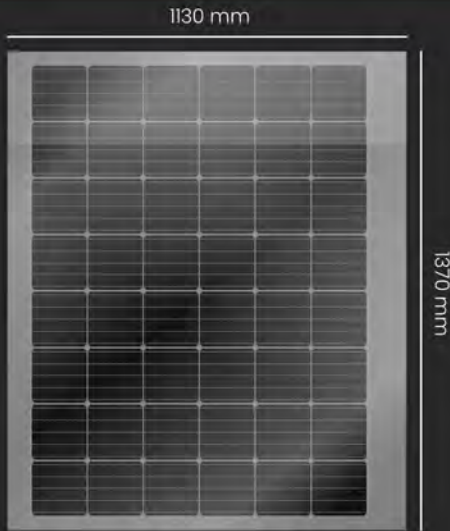
Rated power	P_{MPP}	119 W
Module efficiency	η_{module}	14.6 %
Working voltage	V_{MPP}	13.6 V
Open circuit voltage	V_{OC}	16.4 V
Working electricity	I_{MPP}	8.74 A
Short-circuit electricity	I_{SC}	9.21 A
Fill factor	FF	78.5 %
System voltage	V_{SYS}	1000 V
Permissible reverse electricity	OCP	15 A
Electricity temperature factor	TCI	0.05 %/°C
Electric voltage factor	TCV	-0.32 %/°C
Power temperature factor	TCP	-0.42 %/°C

CERTIFICATES, WARRANTIES

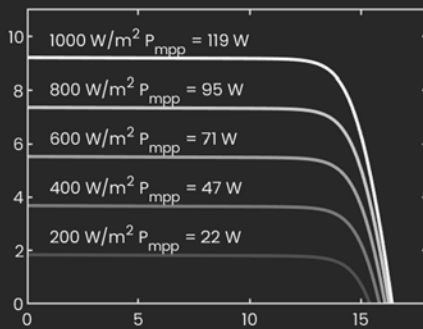
Compliance with standards	IEC 61215, IEC 61730, IEC 62716, IEC 61701, IEC 62804, EN 14449, EN 12600, EN 12543
Factory quality certificates	ISO 9001, ISO 14001, ISO 50001, ISO 45001
Power warranty	12 Years – 12% , 25 Years – 17%
Product warranty	10 Years

GLASS PHOTOVOLTAIC PANEL
RAPTOR
 LENGTH 1690MM
 H=1130MM
 POWER: 270 Wp

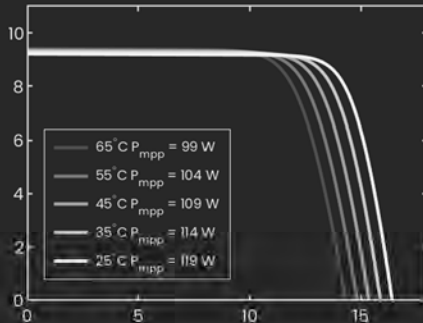




Lighting characteristics



Temperature characteristics



MATERIALS AND MECHANICAL PARAMETERS

Monocrystalline cells	48 pcs. front contact
Cell color	Black
Cell filling	75.1%
Front glass	8mm Low Iron ESG
Back cover	8mm Light Grey ESG
Encapsulant	PVB
Frame type	Frameless
Dimensions	1370x1130±5 mm
Weight	66.5±0.5 kg
Junction box	IP67, connector MC-4 compatible

WORKING CONDITIONS

Temperature	-45 do 85 $^{\circ}C$
Max. Charge	5400/2400 Pa
Impact resistance	Hail: 25mm, 23m/s, 7.5g
Protection class	Class II: (application class A)

ELECTRICAL PARAMETERS

ELECTRICAL VALUES MEASURED AT STANDART TEST CONDITIONS (STC): 1000W/m2, TEMPERATURE 25C, AM 1.5 , TOLERANCE OF ELECTRICAL PARAMETERS 3%, POSITIVE POWER TOLERANCE TOLERANCE

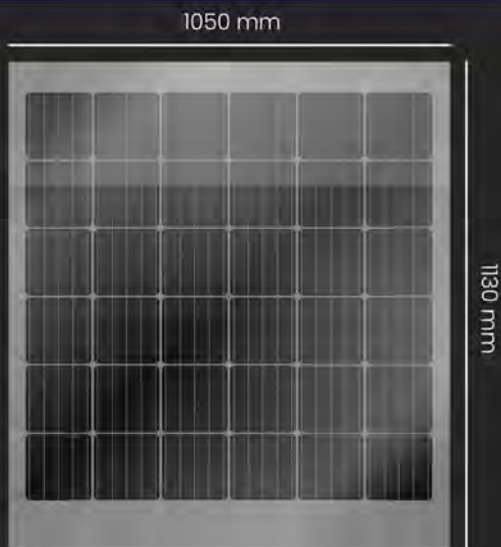
Rated power	P_{MPP}	119 W
Module efficiency	η_{module}	14.6 %
Working voltage	V_{MPP}	13.6 V
Open circuit voltage	V_{OC}	16.4 V
Working electricity	I_{MPP}	8.74 A
Short-circuit electricity	I_{SC}	9.21 A
Fill factor	FF	78.5 %
System voltage	V_{SYS}	1000 V
Permissible reverse electricity	OCP	15 A
Electricity temperature factor	TCI	0.05 %/ $^{\circ}C$
Electric voltage factor	TCV	-0.32 %/ $^{\circ}C$
Power temperature factor	TCP	-0.42 %/ $^{\circ}C$

CERTIFICATES, WARRANTIES

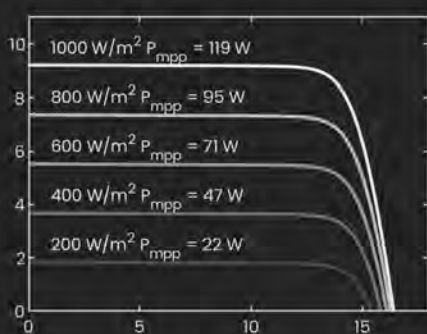
Compliance with standards	IEC 61215, IEC 61730, IEC 62716, IEC 61701, IEC 62804, EN 14449, EN 12600, EN 12543
Factory quality certificates	ISO 9001, ISO 14001, ISO 50001, ISO 45001
Power warranty	12 Years – 12% , 25 Years – 17%
Product warranty	10 Years

GLASS PHOTOVOLTAIC PANEL
RAPTOR
 LENGTH 1370MM
 H=1130MM
 POWER: 220 Wp

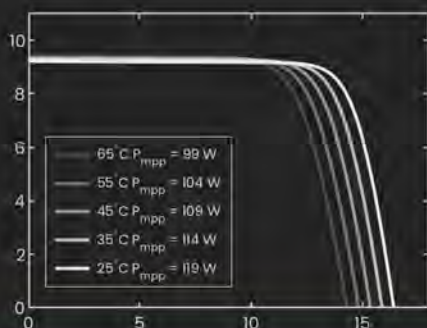




Lighting characteristics



Temperature characteristics



MATERIALS AND MECHANICAL PARAMETERS

Monocrystalline cells	36 pcs. front contact Busbar: 5 Size: 156.75x156.75±0.5
Cell color	Black
Cell filling	73.5%
Front glass	8mm Low Iron ESG
Back cover	8mm Light Grey ESG
Encapsulant	PVB
Frame type	Frameless
Dimensions	1050x1130±5 mm
Weight	51.5±0.5 kg
Junction box	IP67, connector MC-4 compatible

WORKING CONDITIONS

Temperature	-45 do 85 °C
Max. Charge	5400/2400 Pa
Impact resistance	Hail: 25mm, 23m/s, 7.5g
Protection class	Class II: (application class A)

ELECTRICAL PARAMETERS

ELECTRICAL VALUES MEASURED AT STANDART TEST CONDITIONS (STC): 1000W/m², TEMPERATURE 25C, AM 1.5, TOLERANCE OF ELECTRICAL PARAMETERS 3%, POSITIVE POWER TOLERANCE TOLERANCE

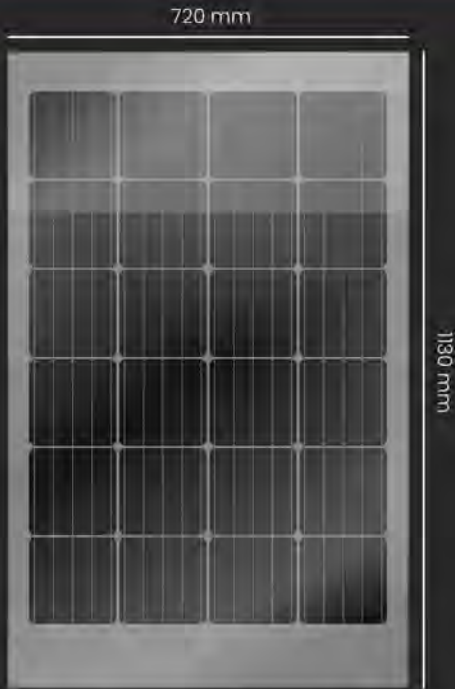
Rated power	P _{MPP}	119 W
Module efficiency	η _{module}	14.6 %
Working voltage	V _{MPP}	13.6 V
Open circuit voltage	V _{OC}	16.4 V
Working electricity	I _{MPP}	8.74 A
Short-circuit electricity	I _{SC}	9.21 A
Fill factor	FF	78.5 %
System voltage	V _{sys}	1000 V
Permissible reverse electricity	OCP	15 A
Electricity temperature factor	TCI	0.05 %/°C
Electric voltage factor	TCV	-0.32 %/°C
Power temperature factor	TCP	-0.42 %/°C

CERTIFICATES, WARRANTIES

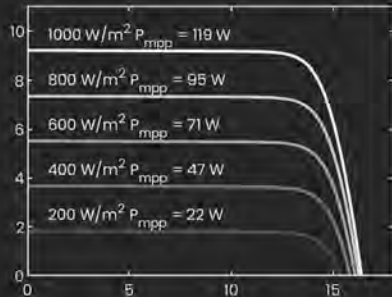
Compliance with standards	IEC 61215, IEC 61730, IEC 62716, IEC 61701, IEC 62804, EN 14449, EN 12600, EN 12543
Factory quality certificates	ISO 9001, ISO 14001, ISO 50001, ISO 45001
Power warranty	12 Years – 12% , 25 Years – 17%
Product warranty	10 Years

GLASS PHOTOVOLTAIC PANEL
RAPTOR
LENGTH 1050MM
H=1130MM
POWER: 160 Wp

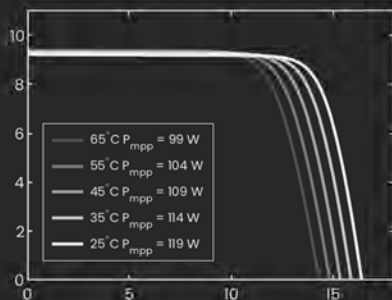




Lighting characteristics



Temperature characteristics



MATERIALS AND MECHANICAL PARAMETERS

Monocrystalline cells	24 pcs. front contact Busbar: 5 Size: 156.75x156.75±0.5
Cell color	Black
Cell filling	71.4%
Front glass	8mm Low Iron ESG
Back cover	8mm Light Grey ESG
Encapsulant	PVB
Frame type	Frameless
Dimensions	720x1130±5 mm
Weight	35.9±0.5 kg
Junction box	IP67, connector MC-4 compatible

WORKING CONDITIONS

Temperature	-45 do 85 °C
Max. Charge	5400/2400 Pa
Impact resistance	Hail: 25mm, 23m/s, 7.5g
Protection class	Class II: (application class A)

ELECTRICAL PARAMETERS

ELECTRICAL VALUES MEASURED AT STANDART TEST CONDITIONS (STC): 1000W/m2, TEMPERATURE 25C, AM 1.5, TOLERANCE OF ELECTRICAL PARAMETERS 3%, POSITIVE POWER TOLERANCE TOLERANCE

Rated power	P_{MPP}	119 W
Module efficiency	η_{module}	14.6 %
Working voltage	V_{MPP}	13.6 V
Open circuit voltage	V_{OC}	16.4 V
Working electricity	I_{MPP}	8.74 A
Short-circuit electricity	I_{SC}	9.21 A
Fill factor	FF	78.5 %
System voltage	V_{SYS}	1000 V
Permissible reverse electricity	OCP	15 A
Electricity temperature factor	TCI	0.05 %/°C
Electric voltage factor	TCV	-0.32 %/°C
Power temperature factor	TCP	-0.42 %/°C

CERTIFICATES, WARRANTIES

Compliance with standards	IEC 61215, IEC 61730, IEC 62716, IEC 61701, IEC 62804, EN 14449, EN 12600, EN 12543
Factory quality certificates	ISO 9001, ISO 14001, ISO 50001, ISO 45001
Power warranty	12 Years – 12% , 25 Years – 17%
Product warranty	10 Years

GLASS PHOTOVOLTAIC PANEL
RAPTOR
 LENGTH 720MM
 H=1130MM
 POWER: 110 Wp



HANDRAIL

DESIGNED BY US **RAPTOR** HANDRAIL HIDES ALL THE NECESSARY ELECTRIC CABLES AND CONNECTORS THAT ALLOW THE PHOTOVOLTAIC BALUSTRADE TO WORK SAFELY AND EFFICIENTLY.



RAL 7016
ANTHRACITE



RAL 9003
WHITE



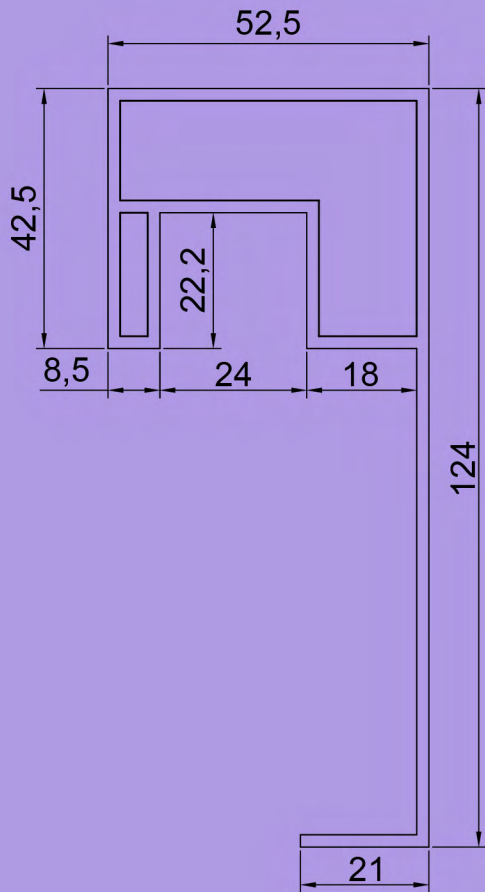
RAL 9005
BLACK



SATIN



CROSS-SECTION OF THE RAPTOR HANDRAIL



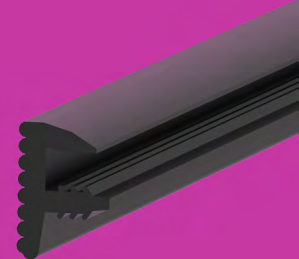
HANDRAIL'S LENGTH	COLORS			
2500 MM				
	RAL 7016	RAL 9003	RAL 9005	SATYNA

COMPLEMENTARY ITEMS:

- CORNER HANDLE **RAPTOR**
- HANDRAIL ANCHOR **RAPTOR**
- F-SHAPED RUBBER FOR HANDRAIL **RAPTOR**
- „U” RUBBER FOR HANDRAIL **RAPTOR**



CORNER HANDLE RAPTOR



F-SHAPED RUBBER RAPTOR



U-SHAPED RUBBER RAPTOR



HANDRAIL ANCHOR RAPTOR

PROFILES

BALUSTRADE **RAPTOR**'S STABILITY IS GUARANTEED BY MOUNTING PROFILE THAT IS AVAILABLE IN THREE SHAPES DEPENDING ON CLIENT'S NEEDS. THE VARIETY OF PROFILES ALLOWS THE BALUSTRADE TO ADAPT TO DIFFERENT SURFACES.

AVAILABLE COLOURS:



RAL 7016
ANTHRACITE



RAL 9003
WHITE

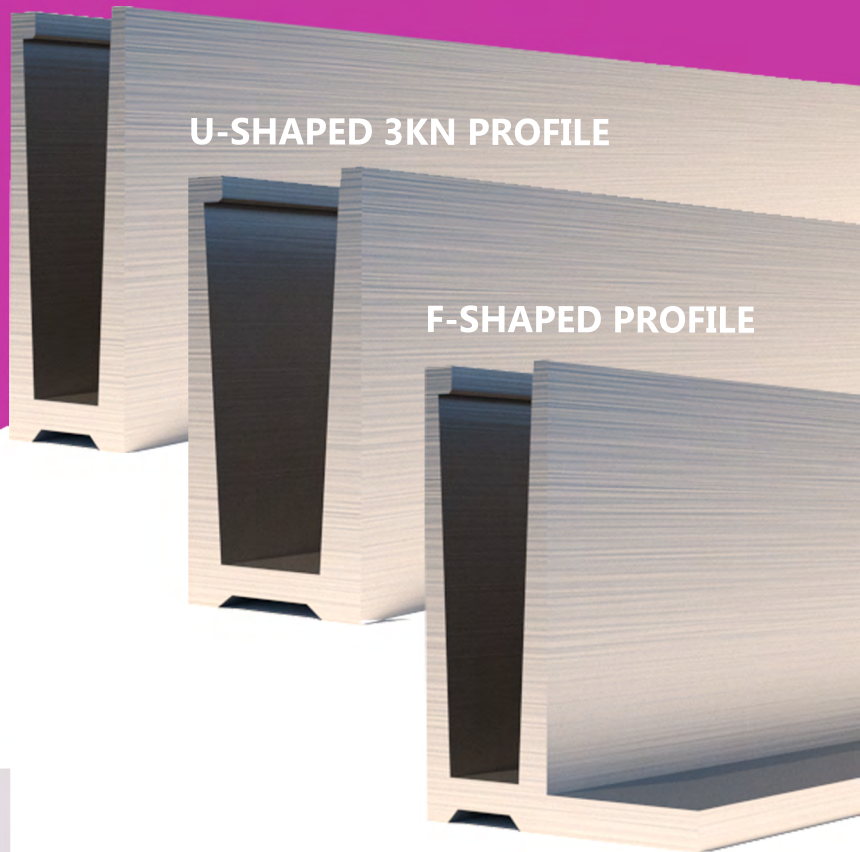


RAL 9005
BLACK



SATIN

U-SHAPED PROFILE



U-SHAPED 3KN PROFILE

F-SHAPED PROFILE

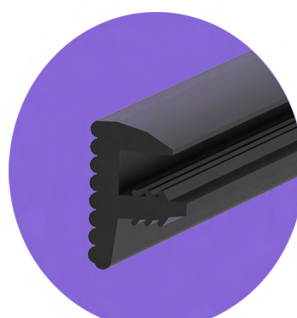
PROFILES FOR THE **RAPTOR** BALUSTRADE

PROFILE'S LENGTH	PROFILE'S TYPE
2500 MM	„U” PROFILE
5000 MM	„U” 3KN PROFILE
	„F” PROFILE

COMPLEMENTARY ITEMS FOR THE **RAPTOR** PROFILES:



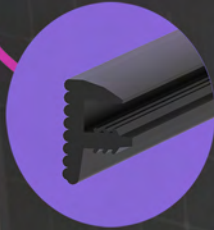
T-SHAPED
RUBBER
RAPTOR



F-SHAPED
RUBBER
RAPTOR

ANCHOR FOR THE **RAPTOR** HANDRAIL

RAPTOR HANDRAIL



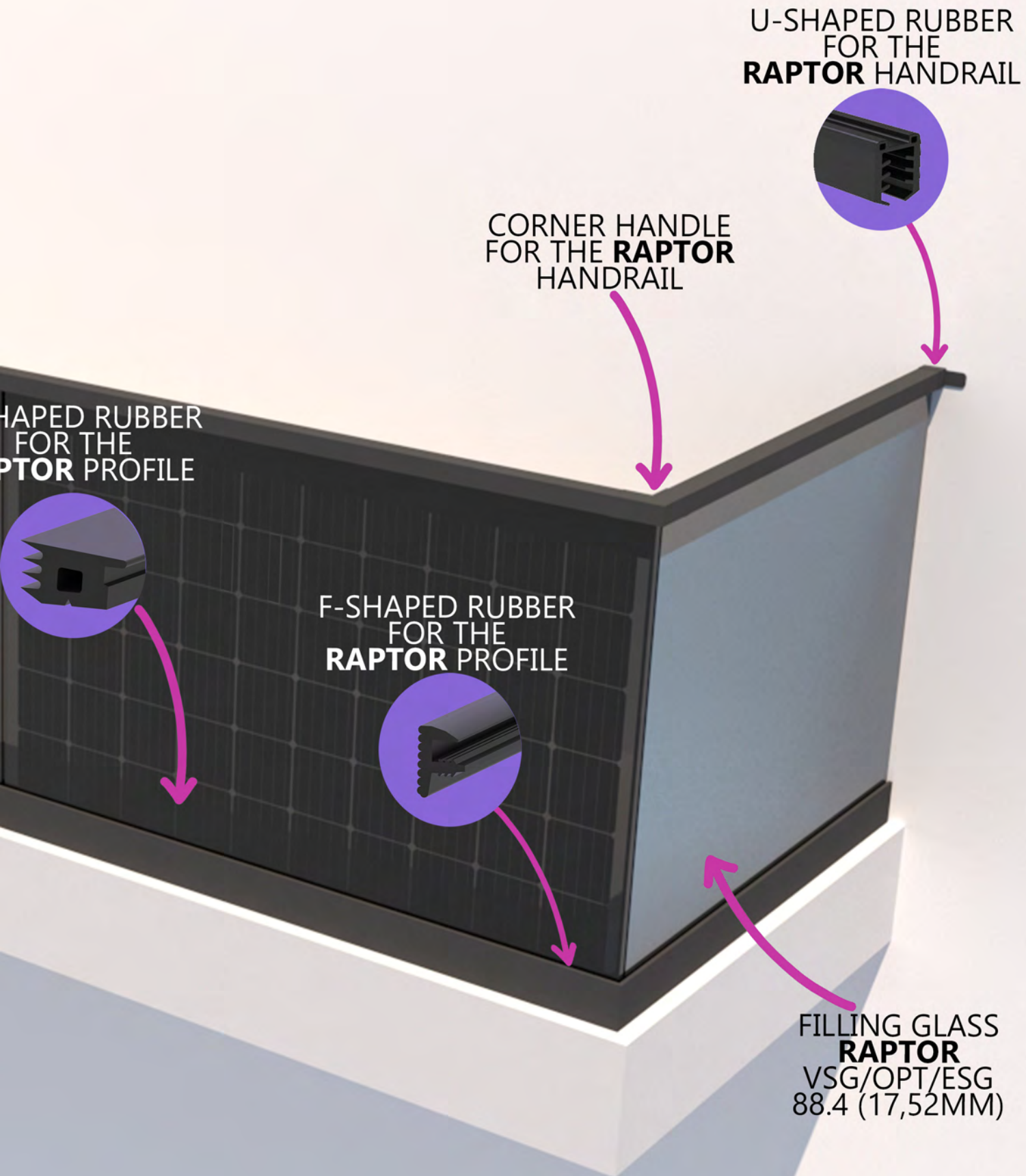
F-SHAPED RUBBER FOR THE **RAPTOR** HANDRAIL

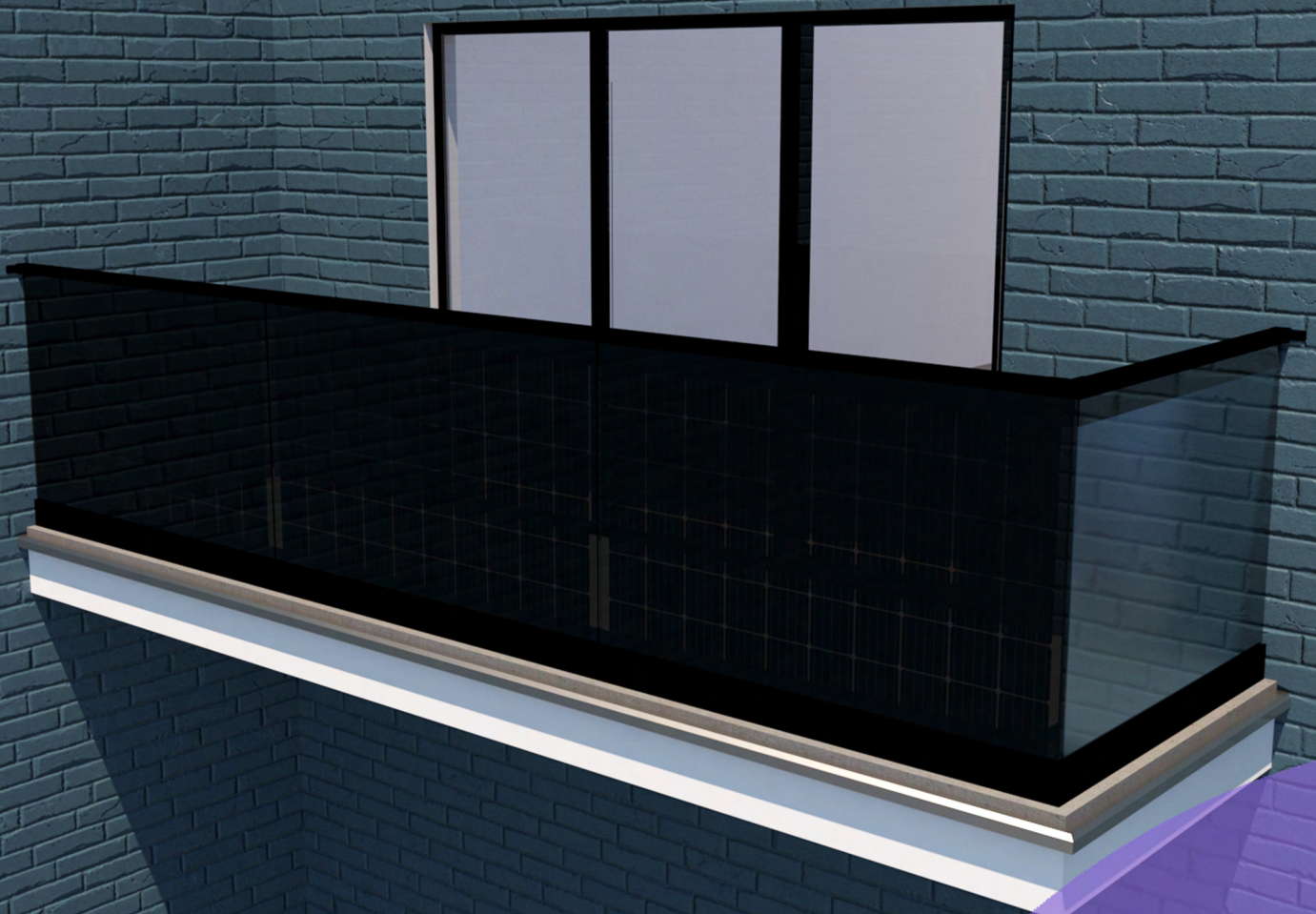
T-SHAPED **RAPTOR**

GLASS PHOTOVOLTAIC PANEL **RAPTOR**
VSG/OPT/ESG
88.4 GRAPHITE

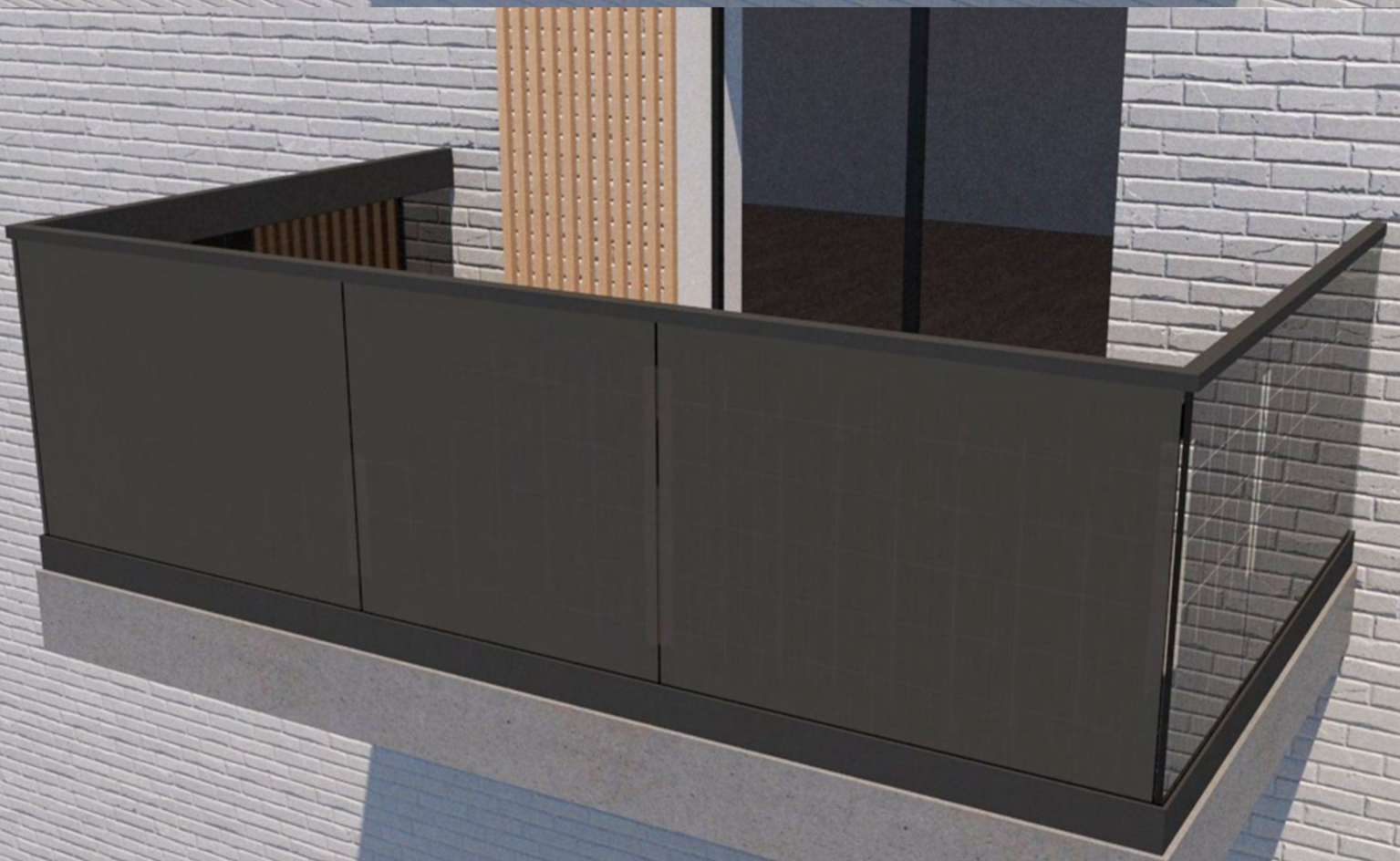
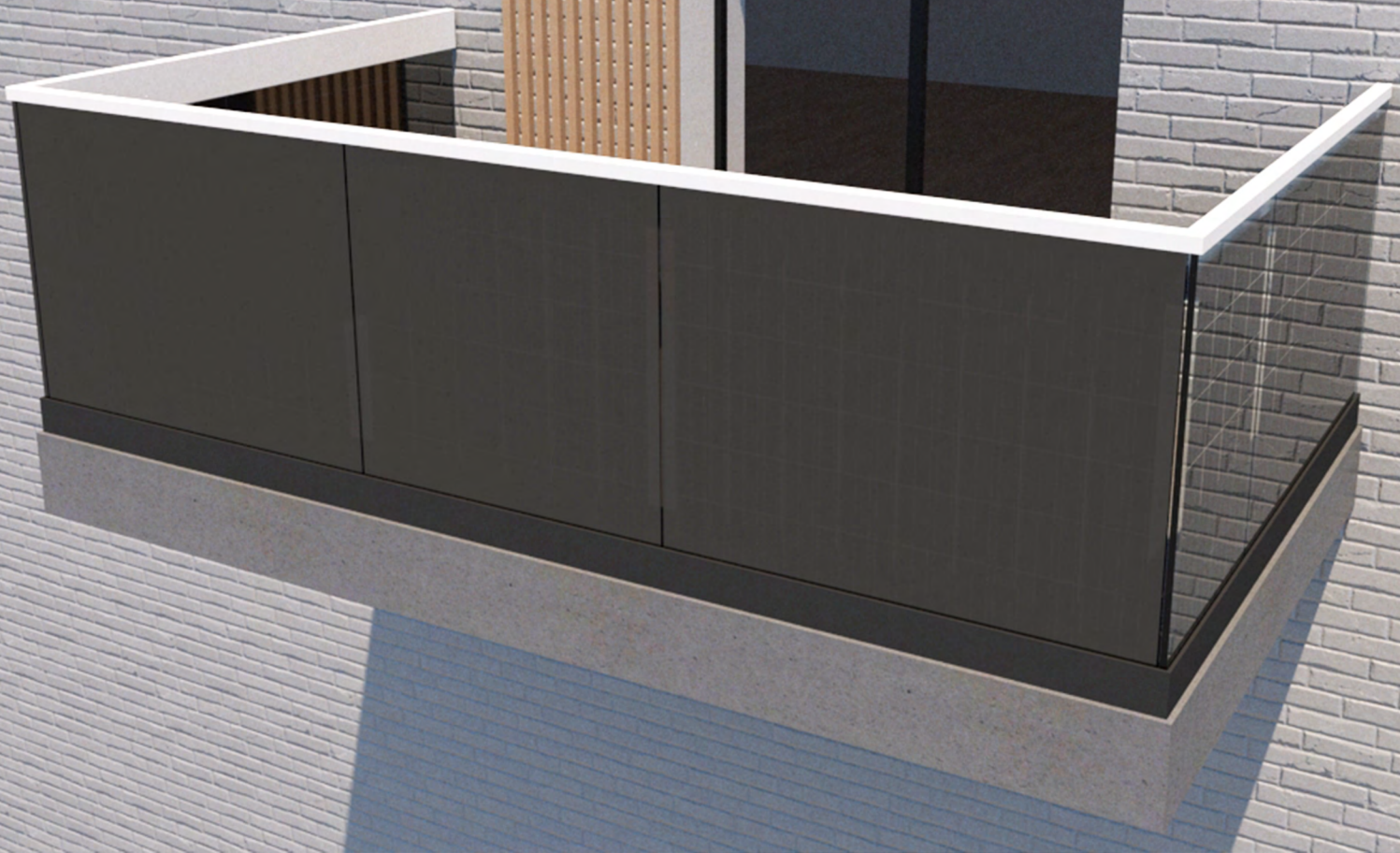
RAPTOR PROFILE

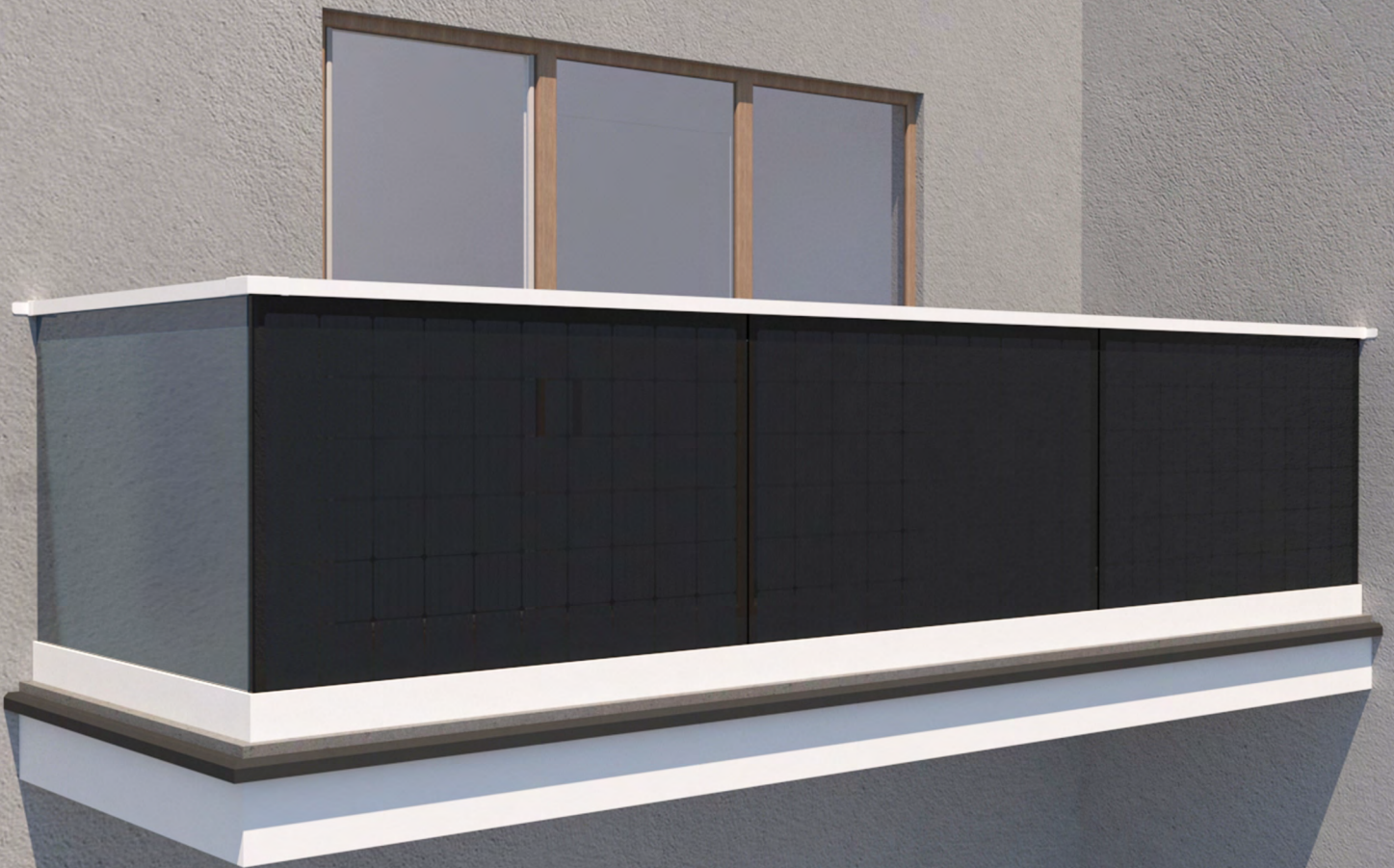
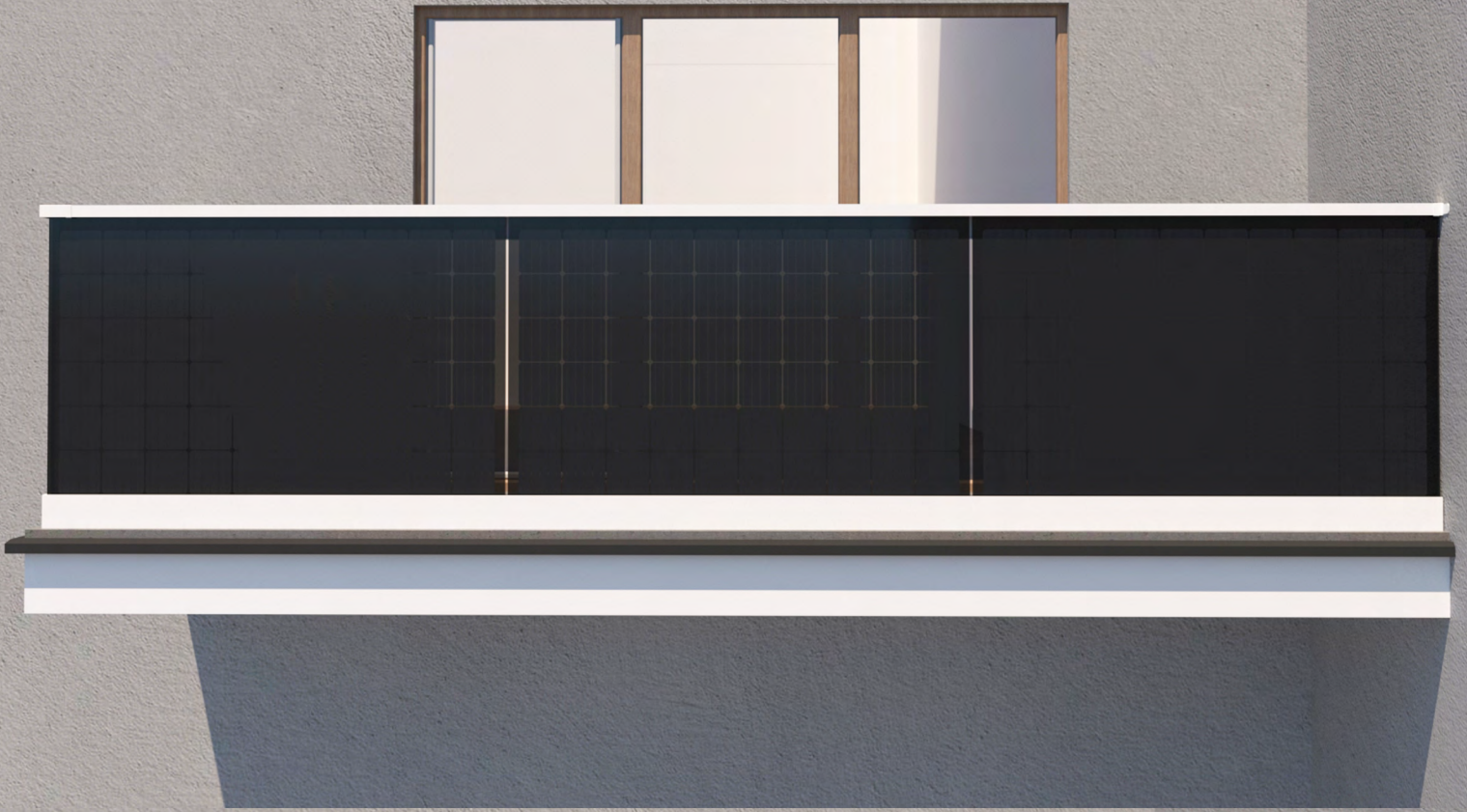
EXAMPLE OF THE PHOTOVOLTAIC BALUSTRADE **RAPTOR**



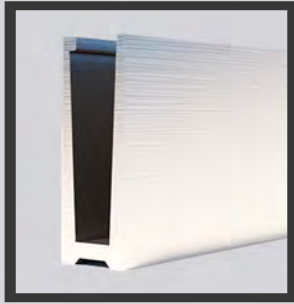








LIST OF ELEMENTS



RAPTOR „U” PROFILE

LENGTH: 2500MM/5000MM

CODE: AL/0004

COLOR:



RAL 7016



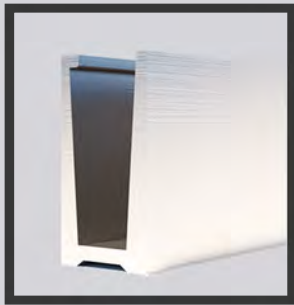
RAL 9003



RAL 9005



SATYNA



RAPTOR „U” 3KN PROFILE

LENGTH: 2500MM/5000MM

CODE: AL/0008

COLOR:



RAL 7016



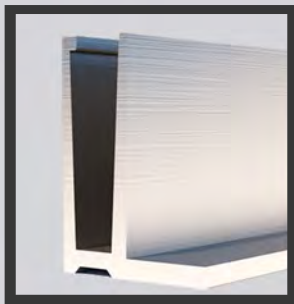
RAL 9003



RAL 9005



SATYNA



RAPTOR „F” PROFILE

LENGTH: 2500MM/5000MM

CODE: AL/0006

COLOR:



RAL 7016



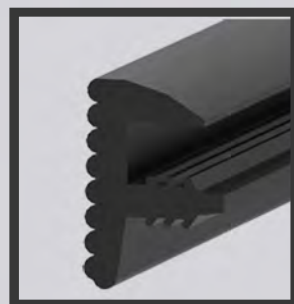
RAL 9003



RAL 9005



SATYNA



RAPTOR F-SHAPED RUBBER

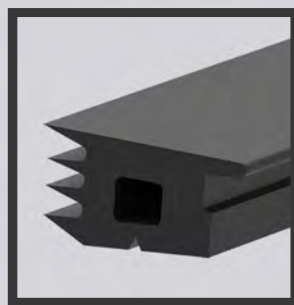
LENGTH: 2500MM

CODE: A19/0004-F-B-02.5

COLOR:



RAL 9005



RAPTOR T-SHAPED RUBBER

LENGTH: 2500MM

CODE: A19/0004-rubber17-18-02.5

COLOR:



RAL 9005



RAPTOR HANDRAIL

LENGTH: 2500MM

COLORS:



RAL 7016



RAL 9003



RAL 9005



SATYNA



RAPTOR HANDRAIL'S ANCHOR

COLORS:



RAL 7016



RAL 9003

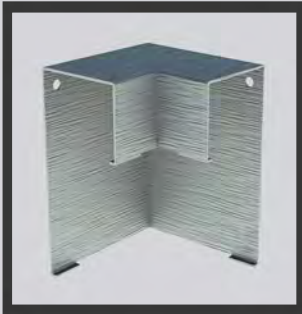


RAL 9005



SATYNA

RIGHT/LEFT



RAPTOR CORNER HANDLE

COLORS:



RAL 7016



RAL 9003



RAL 9005



SATYNA

INNER/OUTER



RAPTOR U-SHAPED RUBBER

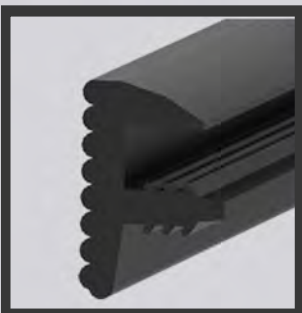
LENGTH: 5000MM

CODE: A19/5042-216

COLORS:



RAL 9005



RAPTOR F-SHAPED RUBBER

LENGTH: 2500MM

CODE: A19/0004-F-B-02.5

COLORS:



RAL 9005

CUSTOMER SERVICE



THERE ARE MANY AVAILABLE SUBSIDIES FOR PHOTOVOLTAIC INSTALLATIONS. MAKE SURE TO CHECK THE CURRENT ONES ACCESSIBLE IN YOUR COUNTRY. IF YOU NEED ANY HELP CONTACT US - WE WILL BE HAPPY TO PROVIDE YOU WITH ALL THE IMPORTANT INFORMATIONS. TO READ MORE ABOUT THE PHOTOVOLTAIC PANELS OR BALUSTRADES VISIT OUR WEBSITE

RAPDACH.COM

CONTACT



ŁUKASZ JOB

 +48 888 444 746

 BIURO@RAPDACH.PL



MARCIN KROK

 +48 888 440 040

 OKNA@RAPDACH.PL



**33-333
PTASZKOWA 957, POLAND**



RAPDACH.COM



RAPDACH

**FOR
DESIGNERS**

