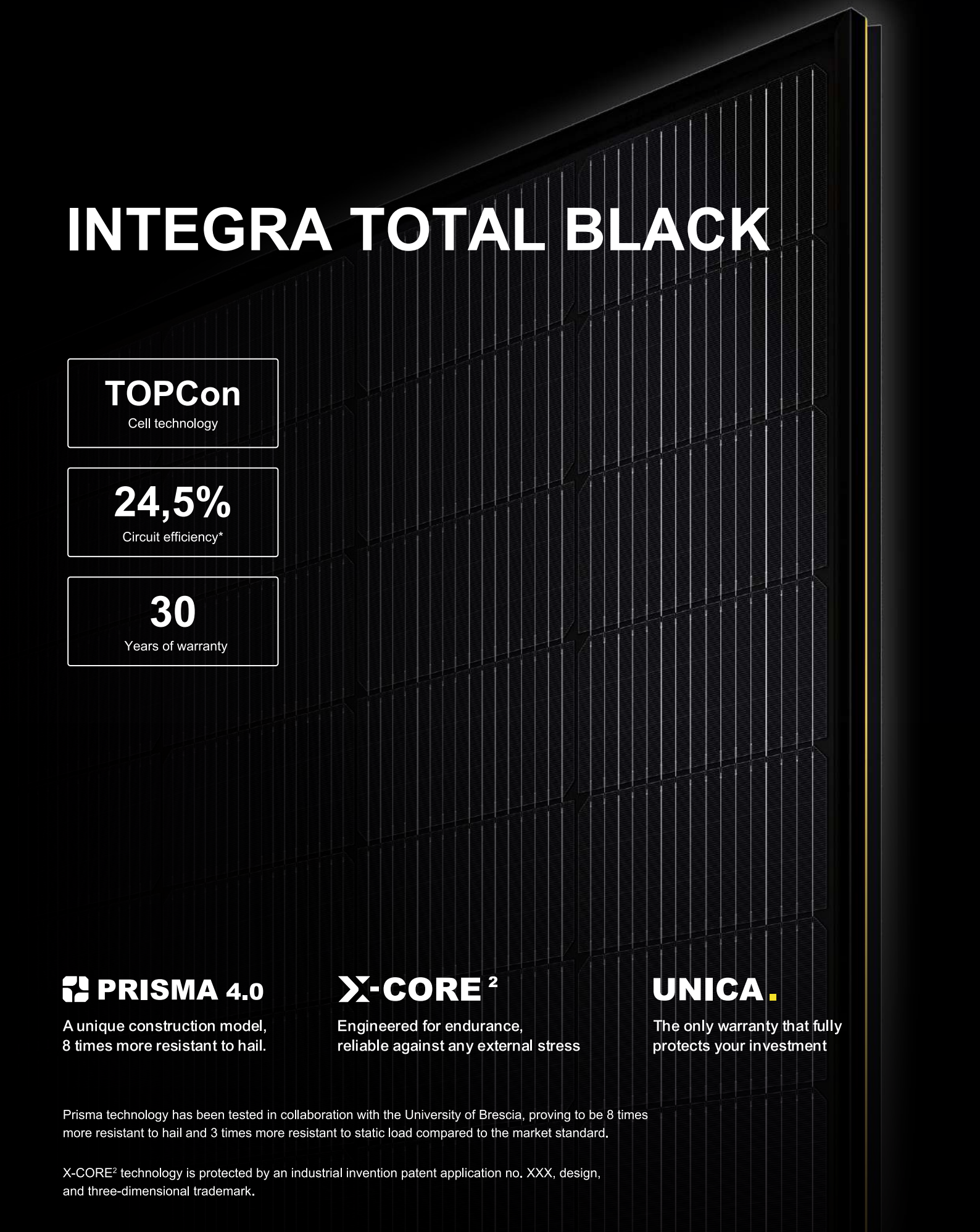
TORRI.
BEYOND ORDINARY SOLAR

DISEGNO ITALIANO

INTEGRA TOTAL BLACK



TOPCon
Cell technology

24,5%
Circuit efficiency*

30
Years of warranty

PRISMA 4.0

A unique construction model,
8 times more resistant to hail.

X-CORE²

Engineered for endurance,
reliable against any external stress

UNICA.

The only warranty that fully
protects your investment

Prisma technology has been tested in collaboration with the University of Brescia, proving to be 8 times more resistant to hail and 3 times more resistant to static load compared to the market standard.

X-CORE² technology is protected by an industrial invention patent application no. XXX, design, and three-dimensional trademark.

TORRI.
BEYOND ORDINARY SOLAR

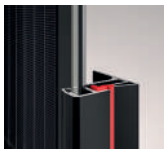
DISEGNO ITALIANO

PRODUCT DESIGN

Configuration	Glass - Polymer
Color	Black frame / Black backsheet / Black ribbon
Cell technology	TOPCon
Number of cells	108 cells
Layout ratio	0,227 kWp/m²
Number of bus bars	16 Bus Bar
Dimension	1134 mm x 1722 mm
Frame thickness	30 mm
Weight	24 Kg
Cable length	+1000 mm
Snow load resistance	750 Kg/m2
Hail resistance	HW5 (Ø45mm, 110Km/h)

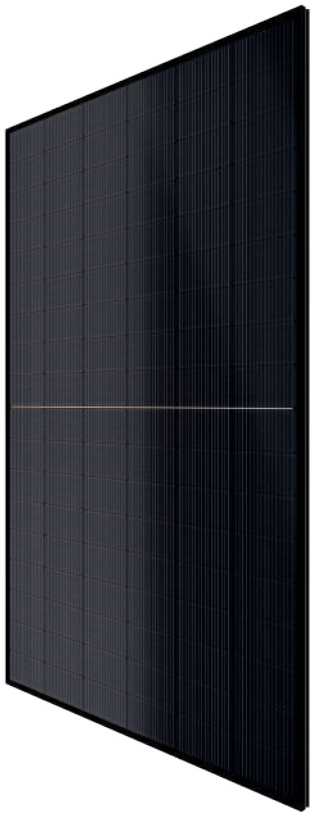
POLYMERIC INSERT

BOLD RED



AUTHENTIC YELLOW

ELEGANT BLACK



FRONT GLASS

Glass thickness	4,0 mm
Glass composition	low-iron tempered glass
Glass type	internal prism
Nanotechnological treatment	ARC (Anti-reflecting-coating)
Solar transmittance	≥ 93,8 %

FRONT ENCAPSULANT

Polymer composition	POE (Polyolefin elastomer)
Polymer density	430 gr/m²

ELECTRICAL CHARACTERISTICS STC**

	Pmpp (Wp)	Vmpp (v)	Impp (A)	Voc (V)	Isc (V)	Prod. eff. (%)	Circuit eff. (%)
TRS 440-54M-H8N TOTAL BLACK X-CORE²	440 Wp	32,29 v	13,63 A	38,86 V	14,42 V	22,5%	24,5%

TEMPERATURE COEFFICIENTS

	Pmpp coefficient	Voc coefficient	Isc coefficient	NOCT
TRS 440-54M-H8N TOTAL BLACK X-CORE²	-0,30 % / °C	-0,25 V / °C	-0,046 % / °C	45°C ± 2°C

PRODUCT CERTIFICATIONS

IEC 61215 - 2:2017 (ed.II)	KIWA
IEC 61730 - 2:2018 (ed.II)	KIWA
PID / Salt mist / Ammonia resistance	KIWA
Fire reaction: Class: 1(UNI 917A)	Istituto Giordano
PRISMA 4.0 technology	Università degli Studi di Brescia

COMPANY CERTIFICATIONS

ISO 9001:2015 Quality	KIWA
ISO 14001:2015 Environment	KIWA
ISO 45001:2018 Safety	KIWA
Factory Inspection Attestation Photovoltaic (PV) Panels ****	KIWA

WARRANTIES

Manufacturing defects	30 years
Linear performance	30 years
UNICA WARRANTIES***	10 years

NOTE

*We define all our products through circuit efficiency, an index we developed to relate the maximum cell efficiency to the photovoltaic panel's size, in order to achieve the best thermal performance.

**STC (standard test conditions) - 1000Watt/m2, AM 1.5, 25°C

***Warranty reserved for X-CORE² technology, covering various accidental events such as hail and walkability, in addition to the labor costs required for the possible replacement of defective products.

**** Factory inspection is not available for all products. Please contact the sales department prior to purchase.

Technical specifications are subject to continuous updates and may vary at any time without prior notice. Please check the warranty conditions and validity directly with the company at the time of purchase.

TORRI.
BEYOND ORDINARY SOLAR

DISEGNO ITALIANO

PRODUCT DESIGN

Configuration	Glass - Polymer
Color	Black frame / Black backsheet / Black ribbon
Cell technology	TOPCon
Number of cells	120 cells
Layout ratio	0,227 kWp/m²
Number of bus bars	16 Bus Bar
Dimension	1134 mm x 1909 mm
Frame thickness	30 mm
Weight	29 Kg
Cable length	+1200 mm
Snow load resistance	750 Kg/m2
Hail resistance	HW5 (Ø45mm, 110Km/h)

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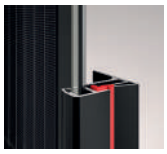

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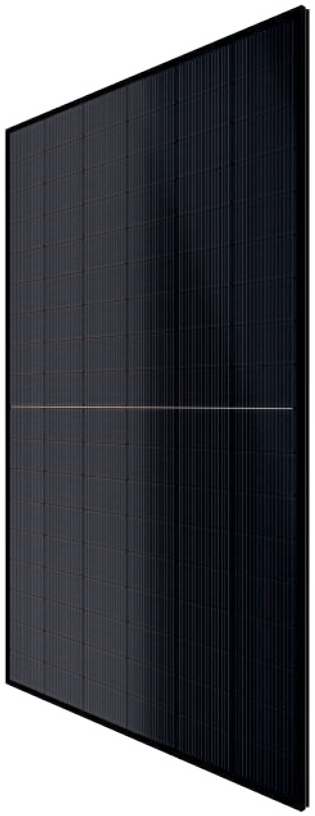

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ELECTRICAL CHARACTERISTICS STC**

	Pmpp (Wp)	Vmpp (v)	Impp (A)	Voc (V)	Isc (V)	Prod. eff. (%)	Circuit eff. (%)
TRS 485-60M-H8N TOTAL BLACK X-CORE²	485 Wp	35,78 v	13,56 A	43,09 V	14,34 V	22,3%	24,5%

TEMPERATURE COEFFICIENTS

	Pmpp coefficient	Voc coefficient	Isc coefficient	NOCT
TRS 485-60M-H8N TOTAL BLACK X-CORE²	-0,30 % / °C	-0,25 V / °C	-0,046 % / °C	45°C ± 2°C

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