



DEFENDER[®]

CABLE PROTECTION SYSTEMS

PRODUCT CATALOGUE



PROTECT YOUR WORLD!



EN: DEFENDER® CABLE PROTECTORS

DEFENDER® cable protection systems were originally intended to protect power cables and avoid tripping hazards at rock concerts, but they have become the standard in many industrial, commercial and public applications. Designed and manufactured in Germany, DEFENDER® products are made from highly durable, recyclable TPU (thermoplastic polyurethane) and include various modular protection systems for cables and hoses of up to 113 mm in diameter. Strict raw material and production controls ensure DEFENDER® cable protectors meet strict specifications and the highest quality standards. All DEFENDER® cable protection systems are certified by TÜV SÜD. They meet the requirements of fire protection class E in accordance with DIN EN 13501-1.

More details about DEFENDER® cable protectors are available at www.defender-protects.com in English, French, German and Spanish. DEFENDER® cable protection experts are happy to answer any questions you may have.

DE: DEFENDER® KABELBRÜCKEN

Ursprünglich zum Schutz von Stromkabeln und zur Vermeidung von Stolperfallen bei Rockkonzerten gedacht, haben sich die DEFENDER® Kabelschutzsysteme mittlerweile als Standard bei zahlreichen Anwendungen in industriellen, kommerziellen und öffentlichen Bereichen durchgesetzt. Die in Deutschland entworfenen und hergestellten DEFENDER® Produkte werden aus besonders robustem, wiederverwertbarem TPU (thermoplastisches Polyurethan) gefertigt und umfassen verschiedene modular einsetzbare Schutzsysteme für Kabel und Schläuche bis zu einem Durchmesser von 113 mm. Strengste Rohstoff- und Produktionskontrollen gewährleisten, dass die DEFENDER® Kabelbrücken die anspruchsvollsten Spezifikationen und höchsten Qualitätsstandards erfüllen. Alle DEFENDER® Kabelschutzsysteme sind vom TÜV SÜD zertifiziert. Sie erfüllen die Anforderungen der Brandschutzklasse E nach DIN EN 13501-1.

Weitere Informationen über die DEFENDER® Kabelbrücken sind unter www.defender-protects.com verfügbar. Bei Fragen stehen Ihnen die Kabelschutzexperten von DEFENDER® gerne zur Verfügung.

ES: PASACABLES DEFENDER®

Desarrollados inicialmente para proteger cables eléctricos y evitar tropiezos en conciertos de rock, los protectores de cables DEFENDER® se han convertido en una solución estándar dentro de una amplia variedad de aplicaciones industriales, comerciales y públicas. Diseñada y fabricada en Alemania con TPU (poliuretano termoplástico) muy resistente y reciclable, la gama DEFENDER® comprende diversos sistemas de protección modular para cables y tubos flexibles con diámetros de hasta 113 mm. Los estrictos controles sobre materias primas y producción garantizan que los protectores DEFENDER® cumplen las más rigurosas especificaciones y las más exigentes normas de calidad. Todos los sistemas de protección de cables DEFENDER® están certificados por TÜV SÜD. Cumplen los requisitos de la clase de protección contra incendios E de acuerdo con la norma DIN EN 13501-1.

Para ampliar la información sobre los sistemas de protección de cables DEFENDER® en inglés, francés, alemán y español, visite www.defender-protects.com; para obtener asistencia, contacte con el equipo de DEFENDER® de expertos en protección de cables.

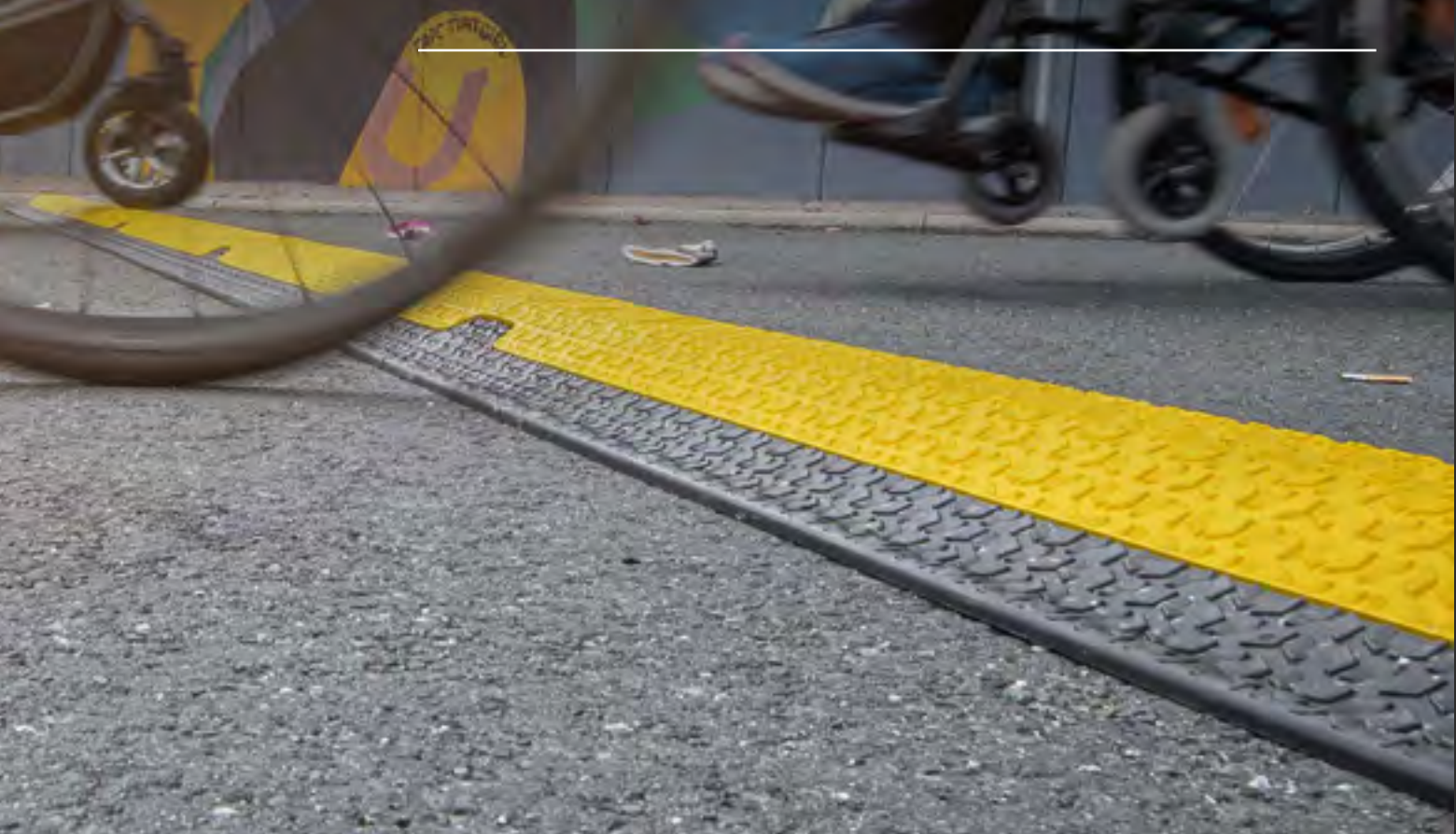
FR: PASSAGES DE CÂBLES DEFENDER®

Initialement prévus pour protéger les câbles électriques et éviter les trébuchements pendant les concerts de rock, les systèmes de protection des câbles DEFENDER® se sont désormais imposés comme la norme pour de nombreuses applications dans les domaines industriel, commercial et public. Conçus et fabriqués en Allemagne, les produits DEFENDER® sont en TPU (polyuréthane thermoplastique) extrêmement robuste et recyclable. Ils intègrent différents systèmes de protection modulaires pour les câbles et les tuyaux jusqu'à un diamètre de 113 mm. Les contrôles très stricts auxquels sont soumises les matières premières et la production garantissent la conformité des passages de câbles DEFENDER® aux spécifications et aux normes de qualité les plus exigeantes. Tous les systèmes de protection de câbles DEFENDER® sont certifiés par TÜV SÜD. Ils répondent aux exigences de la classe de protection incendie E selon DIN EN 13501-1.

Vous trouverez de plus amples informations sur les passages de câbles DEFENDER® sur www.defender-protects.com en anglais, français, allemand et espagnol. Pour toute question, n'hésitez pas à contacter les experts en protection des câbles de DEFENDER®.

EVEN GREATER SAFETY, THANKS TO THE NEW 3D LASERGRIP® SURFACE

THE INNOVATIVE DESIGN OF THE 3D LASERGRIP® SURFACE SIGNIFICANTLY INCREASES TREAD AND SLIP RESISTANCE. DUE TO THE SPECIAL SHAPE AND SURFACE STRUCTURE, THE RISK OF MOVING AN ENTIRE LINE OF DEFENDER® MICRO CABLE PROTECTORS IS SIGNIFICANTLY REDUCED, EVEN WHEN DRIVEN OVER BY HEAVY VEHICLES.



PROTECTION AND ENVIRONMENT

Most companies nowadays place high value on sustainability, and so do we. And most probably so does your company. This is why we recycle over 90% of the DEFENDER® materials in-house – from shredding to granulating. We even monitor the whole process here on our production premises. We know exactly which materials we are processing. Everything comes from Germany and exclusively from certified companies. DEFENDER® continually recycles granulate and is an official recycler of materials from Bayer®, BASF® and DOW® Chemical.

RECYCLING

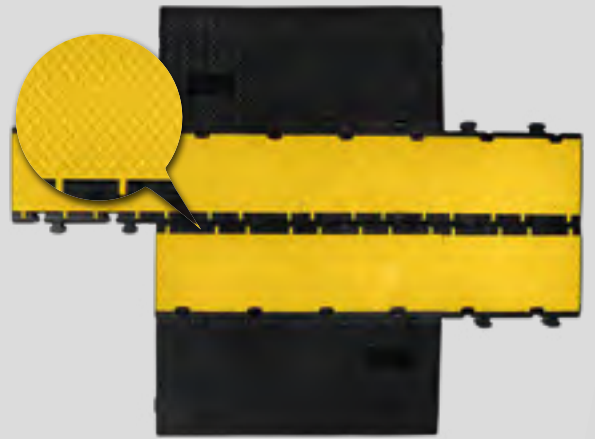
After processing the raw material from our German certified suppliers, the granulate remains in our recycling loop. At the end of their life cycle, the cable protectors are reprocessed into new granulate and the whole process is repeated.



5 YEARS GUARANTEE



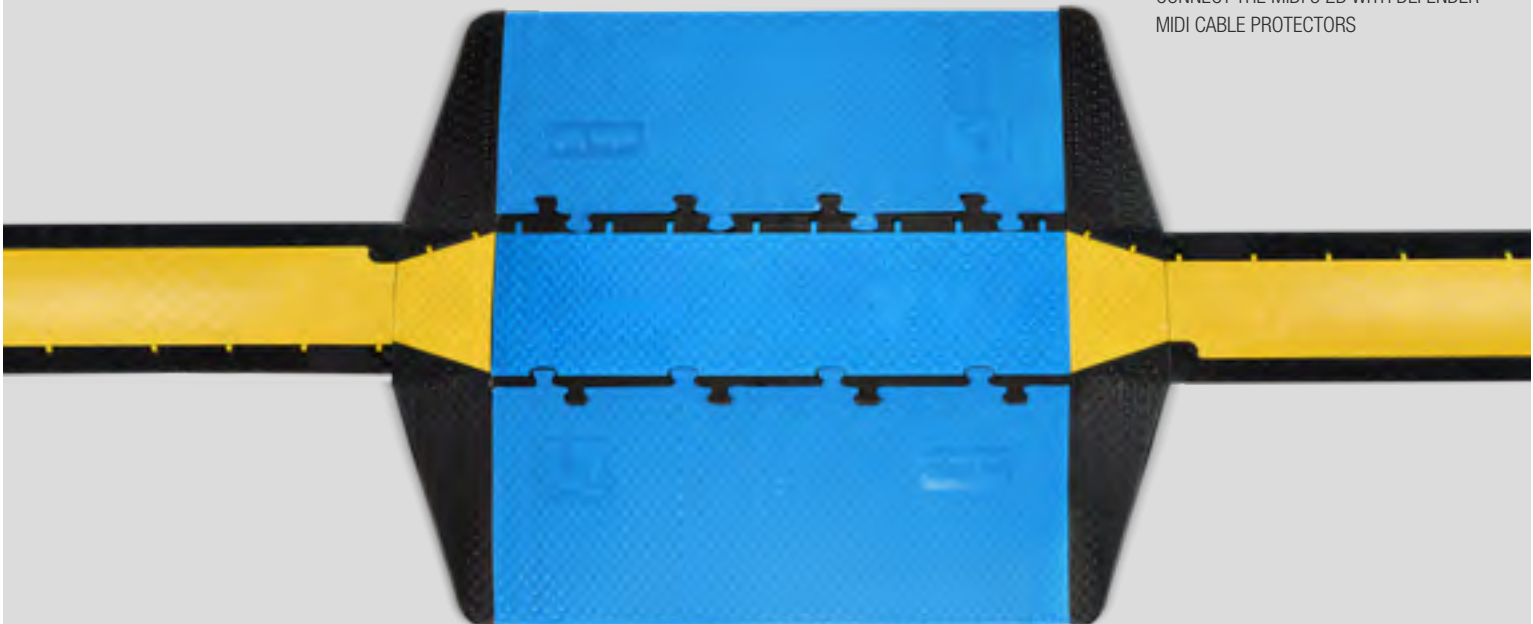
SIMPLE, MULTIDIRECTIONAL MODULAR STRUCTURE
WITH UNLIMITED EXPANDABILITY IN WIDTH AND LENGTH



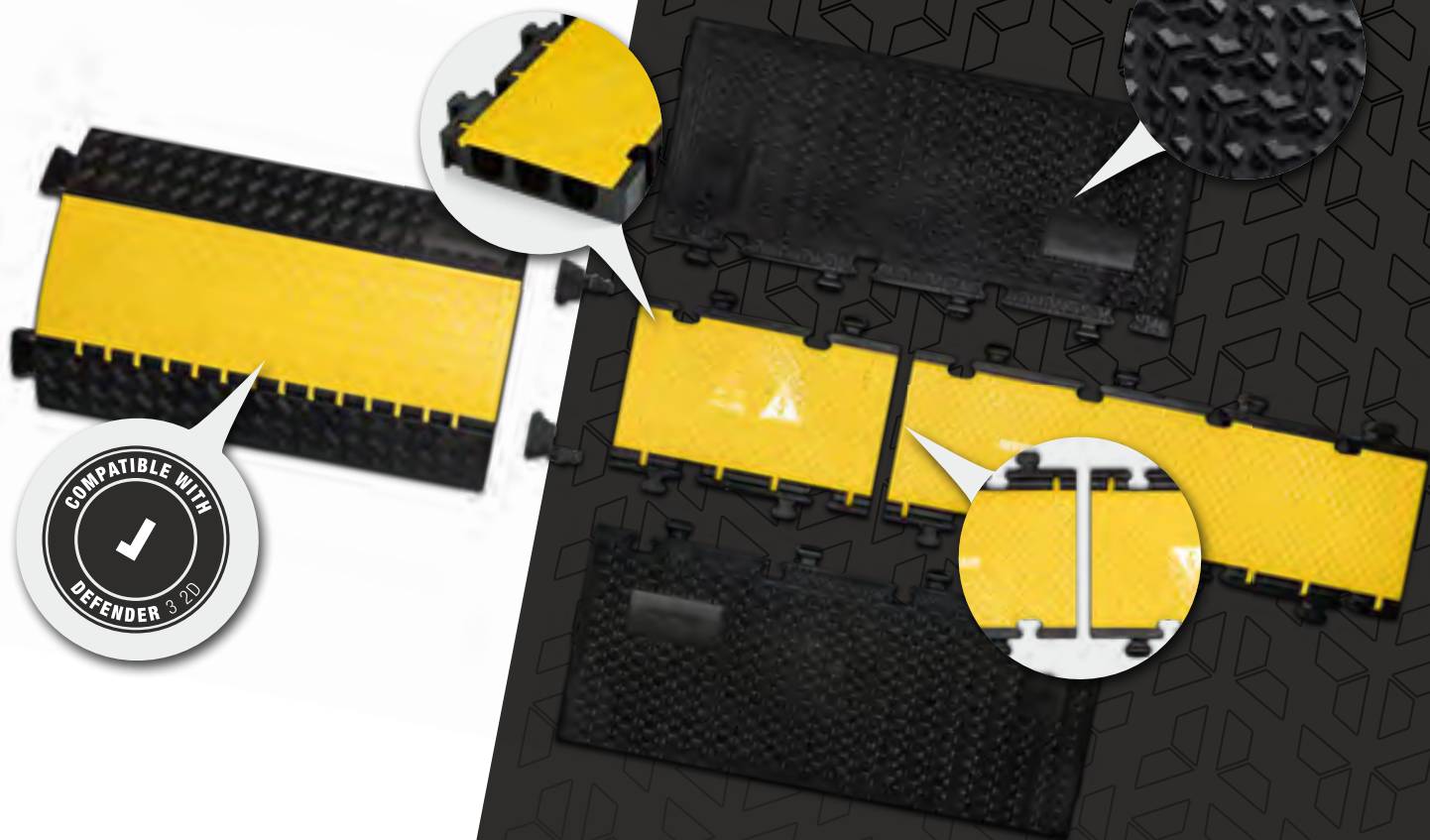
HEAVY-DUTY RAMP WITH 3D LASERGRIP ANTI-SLIP SURFACE
MADE OUT OF BLACK, RECYCLED POLYURETHANE



SELF-CLEANING SYSTEM AND LID HINGE



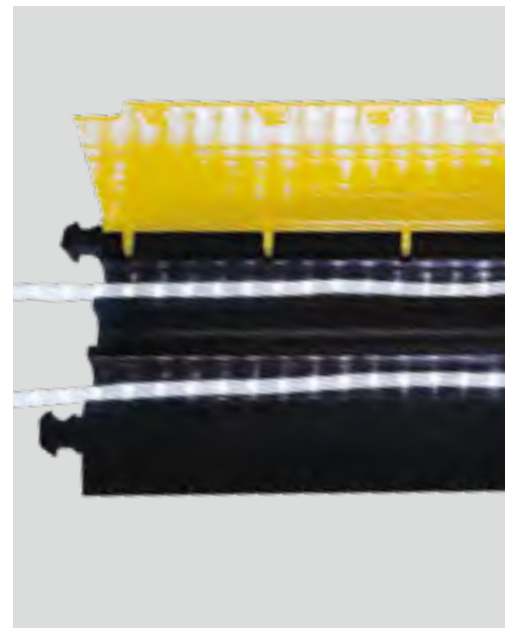
MALE AND FEMALE ADAPTERS TO EASILY
CONNECT THE MIDI 5 2D WITH DEFENDER®
MIDI CABLE PROTECTORS



DEFENDER® 3 2D

DEFENDER® 2D IN COMBINATION
WITH DEFENDER® 3

Thanks to special adapter bones, you can also easily combine the 2D middle part modules with existing products from the DEFENDER® 3 series.



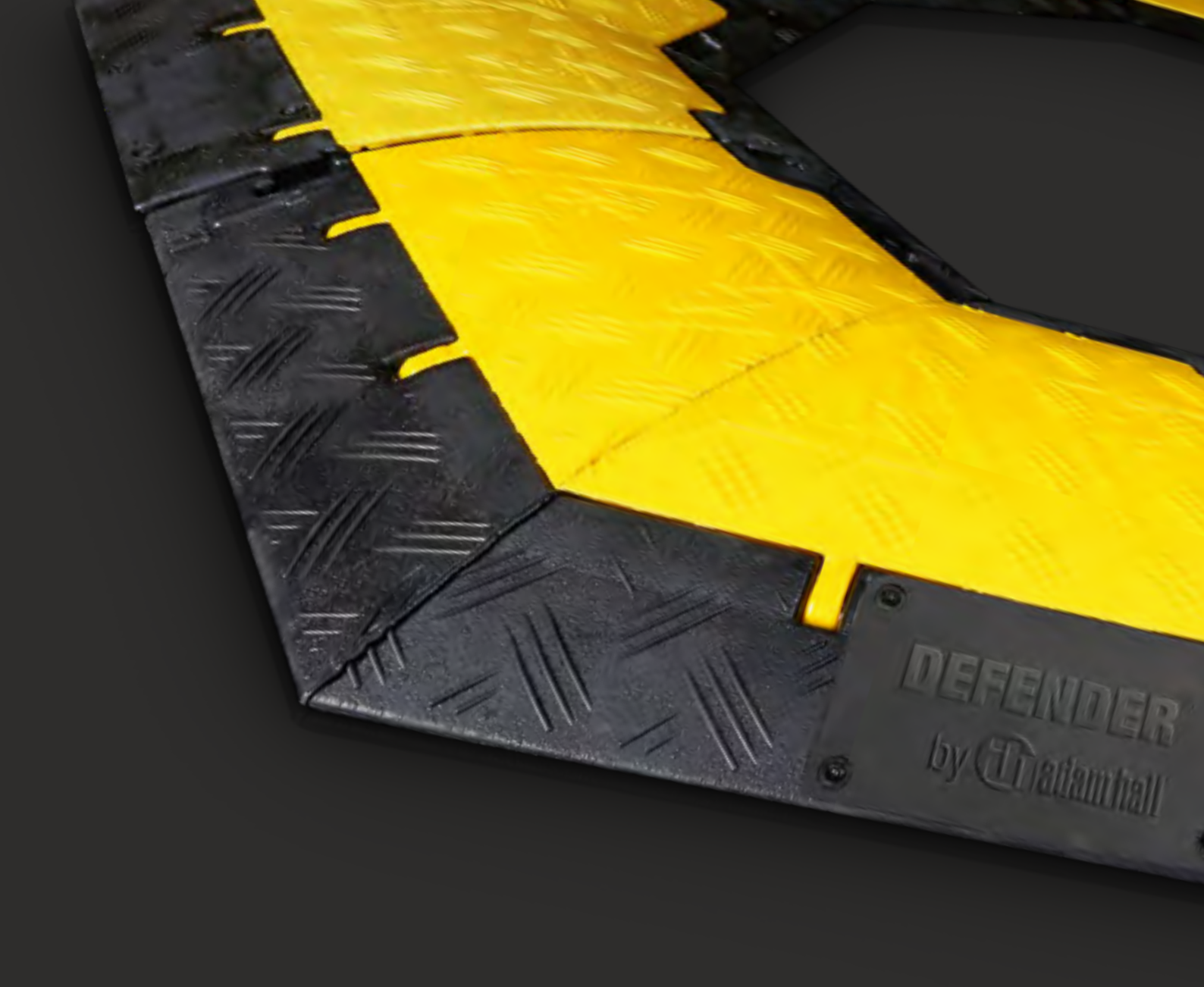
DEFENDER® LUX

SEMI-TRANSPARENT LID SERIES

The ultimate in cable protection and trip hazard prevention, our innovative DEFENDER® LUX SERIES features highly translucent, yellow-tinted lids for running LED rope lights along your cables and cords. Developed in conjunction with major venues and event organisers, DEFENDER® LUX cable protectors are the state-of-the-art indoor and outdoor solution to ensure maximum visibility and security in the dark. See our price list for DEFENDER® LUX or talk to your DEFENDER® representative.

Description:	Art. No.:
DEFENDER® ULTRA L LUX	85600LUX
DEFENDER® ULTRA L II LUX	85601LUX
DEFENDER® XXL LUX	85500LUX
DEFENDER® 3 LUX	85002LUX
DEFENDER® MIDI LUX	85300LUX

Description:	Art. No.:
DEFENDER® MIDI 4C LUX	85301LUX
DEFENDER® MINI LUX	85200LUX
DEFENDER® MICRO 2 LUX	86100LUX
DEFENDER® NANO LUX	85150LUX



DEFENDER® CUSTOM SERVICE

DESIGN YOUR CABLE PROTECTION SYSTEM!

SPECIAL CONFIGURATIONS



Robotic plastic welding

For superior flexibility in designing your cable protection system and perfect integration into your environment, DEFENDER® provides its own in-house robotic plastic welding service. Need an intersection, T-junction, special angle or radius curve? We produce one-offs and small quantities of DEFENDER® elements customised to your requirements. What's more, at DEFENDER® engineering and tooling, we develop and produce special-purpose, injection-moulded protection solutions like those below. Talk to your DEFENDER® representative for more information and minimum orders.



CUSTOM SOLUTION DEVELOPMENT



DEFENDER® subterra

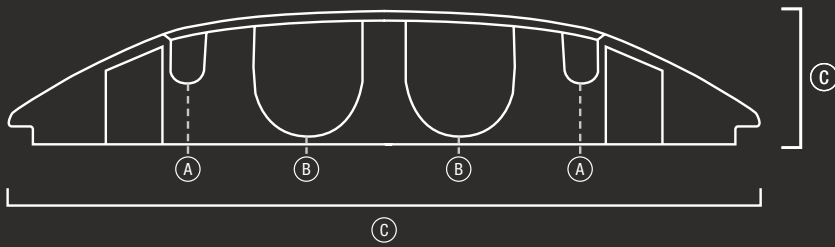
Developed with and produced for Halliburton Oil Field Services, the Subterra is a protection system for underground hydraulic lines. It combines thermoplastic polyurethane and reinforced polyamide materials to withstand earth pressure and truly demonstrates the scope of DEFENDER'S purpose design and custom production facilities.



DEFENDER® race result

Developed with leading race management and timing software company Race Result, these injection-moulded thermoplastic polyurethane protectors are another DEFENDER® custom product that has been purpose-designed for the company's sports event timing system antennas.

DEFENDER® RANGE OVERVIEW (IN PROPORTIONAL SCALE)

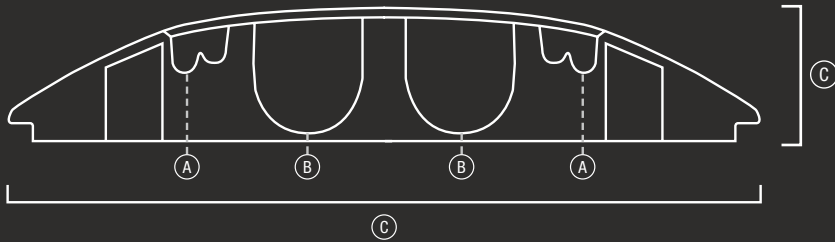


DEFENDER® ULTRA L

TWO ULTRA-LARGE CHANNELS – THE HEAVY-DUTY GIANT

A	33 × 50 mm / 1.3" × 2.0"
B	113 × 120 mm / 4.5" × 4.7"
C	765 × 139 mm / 30.12" × 5.472"

SEE PAGE 16–17

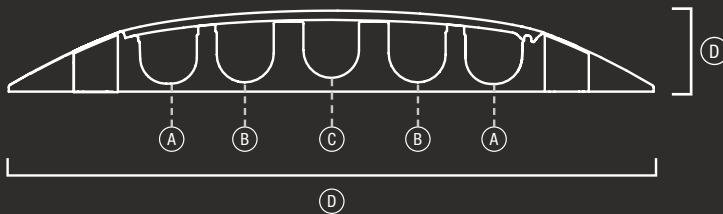


DEFENDER® ULTRA L 2

TWO ULTRA-LARGE CHANNELS (2+4) – THE HEAVY-DUTY GIANT

A	25 mm (2x) / 1.0"
B	108 × 110 mm / 4.2" × 4.3"
C	765 × 120 mm / 30.12" × 4.725"

SEE PAGE 18–19

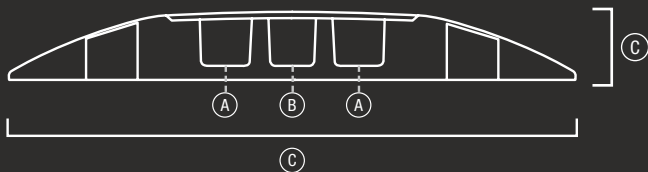


DEFENDER® XXL

FIVE XXL CHANNELS – THE HEAVY-DUTY ALL-ROUNDER

A	61 × 59 mm / 2.4" × 2.3"
B	62 × 65 mm / 2.4" × 2.6"
C	60 × 63 mm / 2.4" × 2.5"
D	696 × 87 mm / 27.4" × 3.43"

SEE PAGE 20–21

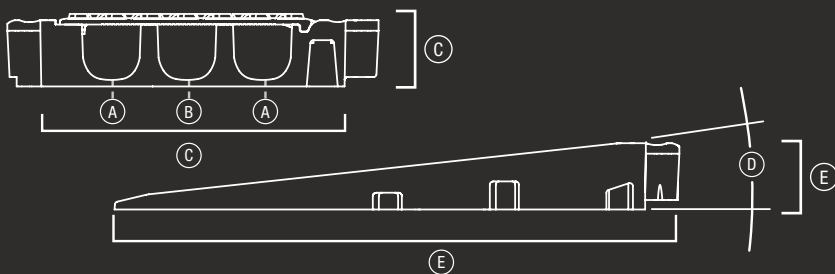


DEFENDER® 3

THREE BIG CHANNELS – MOST POPULAR

A	52 × 49 mm / 2.1" × 2.0"
B	45 × 50 mm / 1.8" × 2.0"
C	605 × 75 mm / 23.82" × 2.953"

SEE PAGE 22–23



DEFENDER® 3 2D

DEFENDER® 3 2D MODULAR SYSTEM FOR WHEELCHAIR RAMP AND BARRIER-FREE TRANSITION

MIDDLE PART

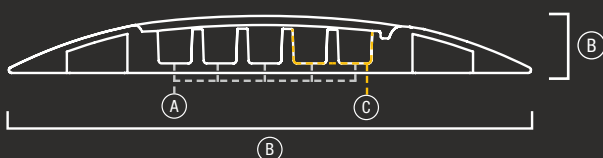
A	52 × 49 mm / 2.1" × 2.0"
B	45 × 50 mm / 1.8" × 2.0"
C	395 × 73 mm / 15.6" × 2.87"

SEE PAGE 24–25

RAMP

D	6°
E	600 × 71 mm / 23.6" × 2.796"

SEE PAGE 24–25



DEFENDER® MIDI 5 AND MIDI 4

FIVE MEDIUM CHANNELS OR THREE MEDIUM-SIZED CABLE CHANNELS AND ONE LARGE CHANNEL FOR FIRE HOSES

MIDI

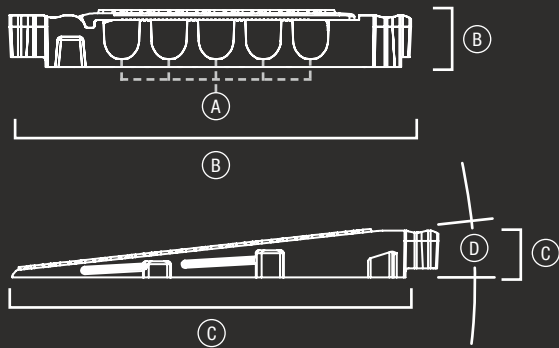
A	34 × 36 mm / 1.3" × 1.4"
B	538 × 55 mm / 21.18" × 2.17"

SEE PAGE 26–29

MIDI 4

C	600 × 55 mm / 23.6" × 2.17"
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SEE PAGE 26–27 AND 34–35



DEFENDER® MIDI 5 2D

MIDI 5 2D MODULE SYSTEM FOR WHEELCHAIR RAMP AND BARRIER-FREE TRANSITION

MIDDLE PART

A	35 × 38 mm / 1.4" × 1.5"
B	325 × 54 mm / 12.8" × 2.13"

SEE PAGE 26-27
AND 30-31

MIDDLE PART, SHORT

A	35 × 38 mm / 1.4" × 1.5"
B	325 × 54 mm / 12.8" × 2.13"

SEE PAGE 26-27
AND 30-31

RAMP

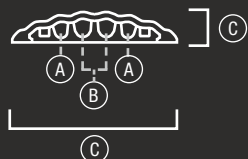
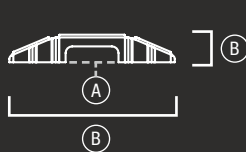
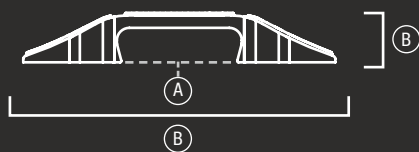
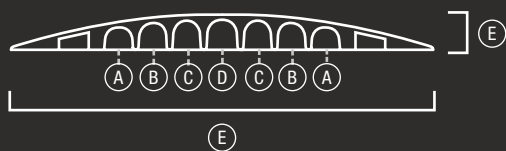
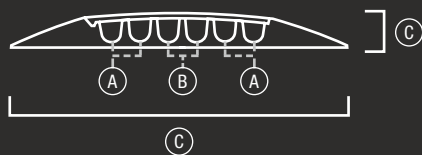
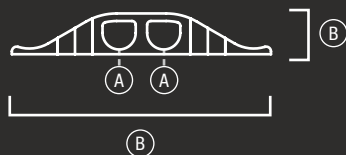
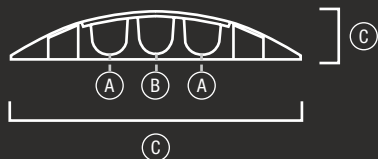
C	430 × 54 mm / 16.9" × 2.13"
D	6°

SEE PAGE 30-31

RAMP, SHORT

C	172 × 54 mm / 6.7" × 2.13"
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SEE PAGE 30-31



DEFENDER® MINI

THREE SMALL CHANNELS – THE LIGHTWEIGHT CHAMPION

A	35 × 30 mm / 1.4" × 1.2"
B	35 × 35 mm / 1.4" × 1.4"
C	290 × 50 mm / 11.42" × 1.97"

SEE PAGE 36-37

DEFENDER® MICRO 2

CABLE PROTECTOR WITH TWO CHANNELS

A	35 × 35 mm / 1.4" × 1.4"
B	273 × 45 mm / 10.7" × 1.77"

SEE PAGE 38-39

DEFENDER® NANO

SIX SLIM CHANNELS – DISCREET OUTDOOR / INDOOR PROTECTION

A	17 × 18 mm / 0.7" × 0.7"
B	17 × 19 mm / 0.7" × 0.7"
C	285 × 32 mm / 11.22" × 1.26"

SEE PAGE 40-41

DEFENDER® COMPACT

SEVEN SMALL CHANNELS – THE DROP-OVER SOLUTION

A	28 × 23 mm / 1.1" × 0.9"	D	28 × 30 mm / 1.1" × 1.1"
B	28 × 27 mm / 1.1" × 1.1"	E	410 × 37 mm / 16.14" × 1.46"
C	28 × 29 mm / 1.1" × 1.1"		

SEE PAGE 42-43

DEFENDER® XPRESS

DROP-OVER CABLE PROTECTOR – INDOOR & DESIGN SOLUTION

100		40	
A	100 × 30 mm / 3.94" × 1.2"	A	40 × 12 mm / 1.6" × 0.48"
B	250 × 40 mm / 9.85" × 1.6"	B	125 × 20 mm / 4.92" × 0.79"

SEE PAGE 44-45

SEE PAGE 44-45

DEFENDER® OFFICE

FOUR MINI CHANNELS – INDOOR & DESIGN SOLUTION

A	10 × 10 mm / 0.4" × 0.4"
B	12 × 12 mm / 0.5" × 0.5"
C	125 × 20 mm / 4.82" × 0.79"

SEE PAGE 44-45

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



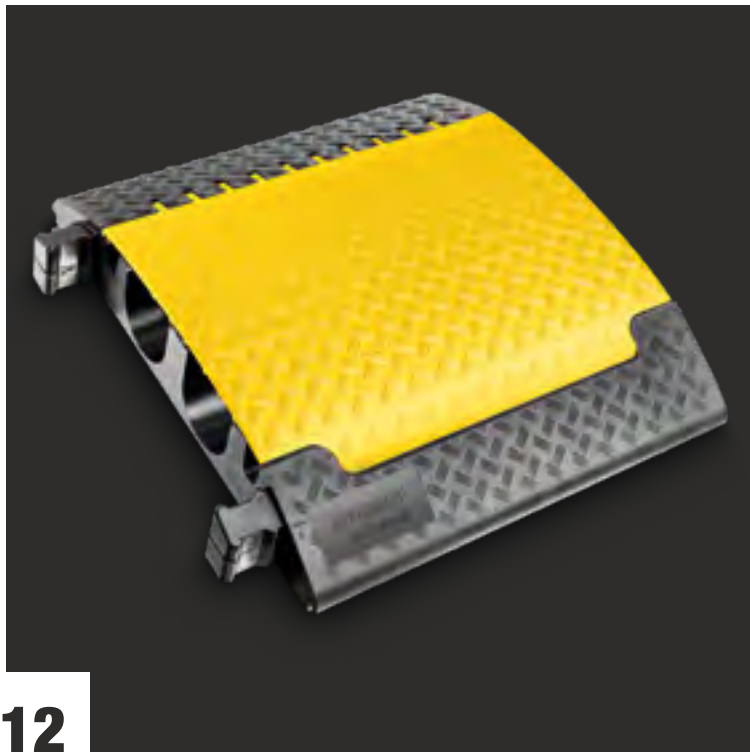
DEFENDER® ULTRA L

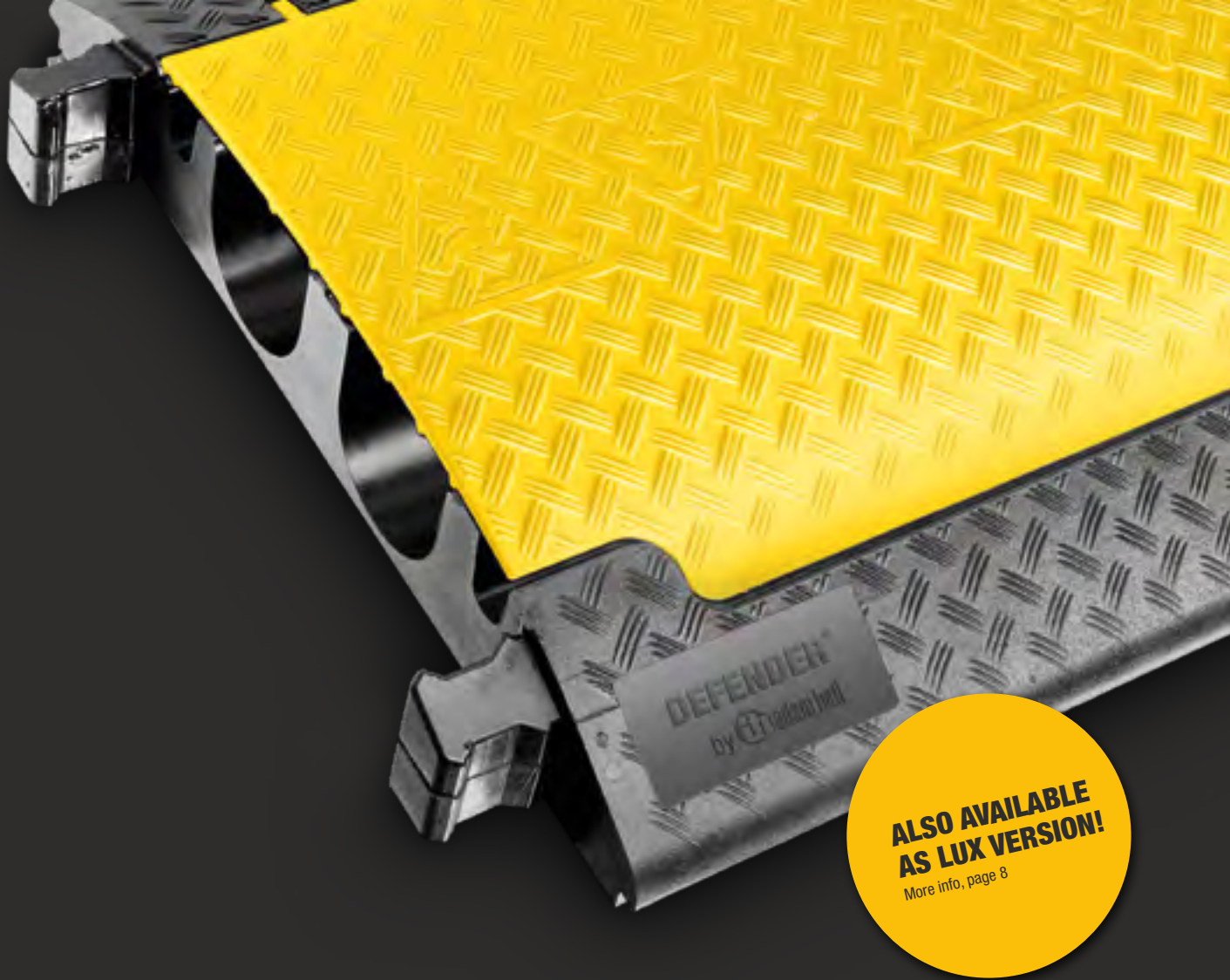
TWO ULTRA-LARGE CHANNELS – THE HEAVY-DUTY GIANT

The Ultra L cable protection system is designed for extra-heavy-duty environments and the largest cable and hose diameters. Featuring a pair of 120 × 113 mm / 4.7" × 4.5" channels flanked by two 33 × 50 mm / 1.3" × 2.0" ducts, integrated dog bone connectors for easy linking and a 5.0 ton/11,023 lb per 20 × 20 cm / 7.9" × 7.9" load capacity, DEFENDER® ULTRA L protectors are eminently suitable for heavy wheeled traffic, construction sites, warehouses, carnivals, fairs, music events and other demanding applications.

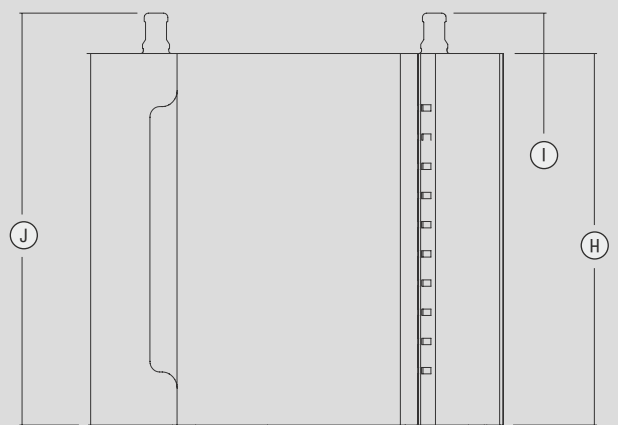
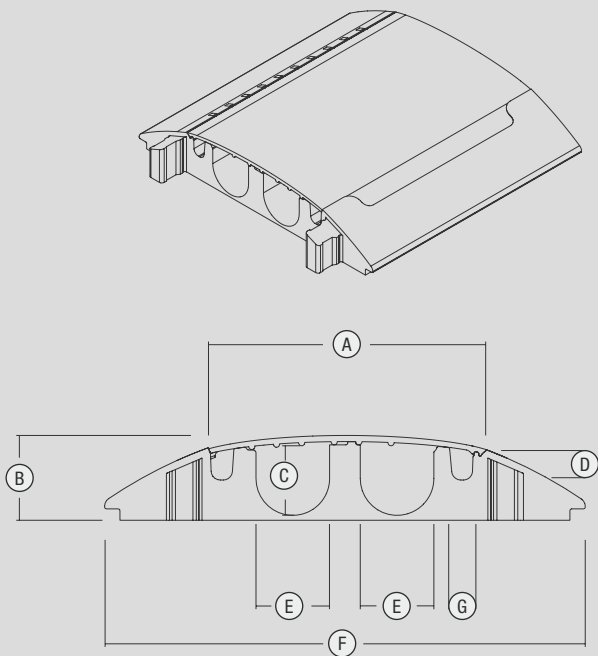
SPECIFICATIONS:

Art. No.:	85600
Product:	Four-channel cable protector
Channel W × H:	33 × 50 mm / 1.3" × 2.0" (channels 1 and 4), 120 × 113 mm / 4.7" × 4.5" (channels 2 and 3)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton/11,023 lb / 20 × 20 cm / 7.9" × 7.9" (typical tyre footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	700 mm / 27.6"
Width:	770 mm / 30.32"
Height:	143 mm / 5.63"
Weight:	30 kg / 66.1 lb





**ALSO AVAILABLE
AS LUX VERSION!**
More info, page 8



A	452 mm / 17.8"	F	770 mm / 30.32"
B	143 mm / 5.63"	G	33 mm / 1.3"
C	113 mm / 4.5"	H	700 mm / 27.6"
D	50 mm / 2.0"	I	76 mm / 3.0"
E	120 mm / 4.7"	J	776 mm / 30.6"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



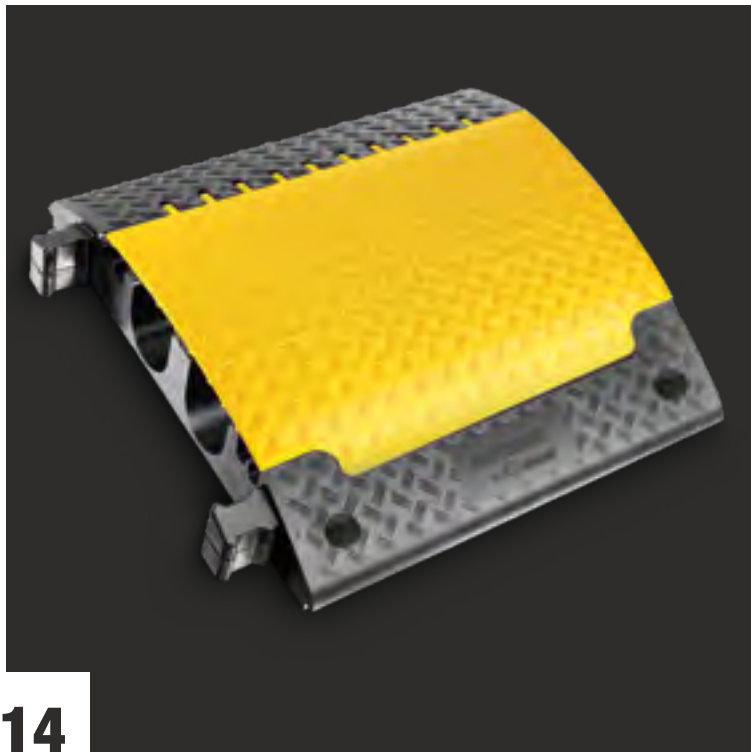
DEFENDER® ULTRA L 2

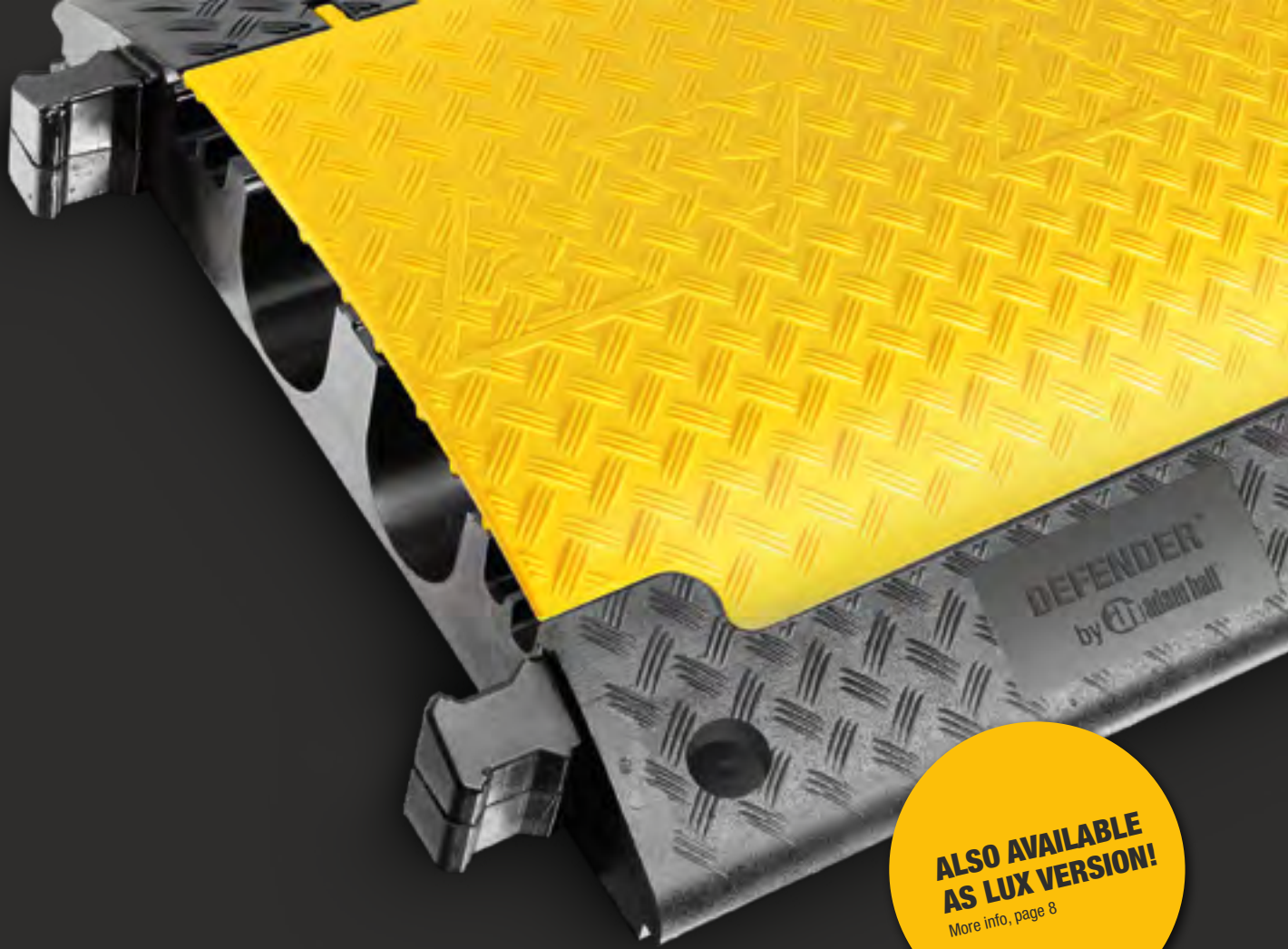
TWO ULTRA-LARGE CHANNELS (2+4) – THE HEAVY-DUTY GIANT

Ultra L 2 – heavy-duty cable crossovers are designed for the most demanding applications and feature two extra-large cable channels of 108 × 110 mm / 4.2" × 4.3", plus four channels with 25 mm / 1.0" diameter and integrated connector plugs for easy coupling of several elements. The load-bearing capacity is approx. 5.0 tons/11,023 lb on a 25 × 30 cm / 9.8" × 11.8" surface area. Therefore, Ultra L 2 cable crossovers are the ideal solution for heavy traffic, construction sites, warehouses, trade shows, carnivals and music events, and other applications involving particularly heavy use. They are equipped with four fixing holes (ø 15 mm / 0.6") for street installation.

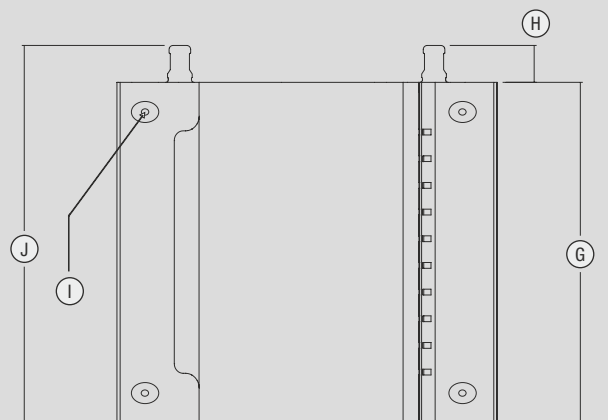
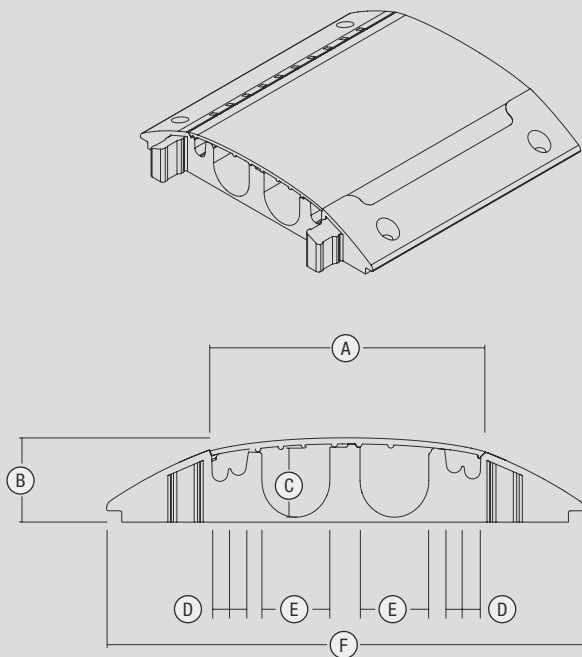
SPECIFICATIONS:

Art. No.:	85601
Product:	2+4-channel cable protector
Channel W × H:	Diameter channel 1+2: 25 mm / 1.0" / Diameter channel 5+6: 25 mm / 1.0" Channel 3: 108 × 110 mm / 4.2" × 4.3" / Channel 4: 108 × 110 mm / 4.2" × 4.3"
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 tons/11,023 lb / 25 × 30 cm / 9.8" × 11.8" (typical tyre footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	705 mm / 27.8"
Width:	765 mm / 30.1"
Height:	120 mm / 4.7"
Weight:	27.05 kg / 59.64 lb





**ALSO AVAILABLE
AS LUX VERSION!**
More info, page 8



A	452 mm / 17.8"	F	765 mm / 30.1"
B	143 mm / 5.63"	G	705 mm / 27.8"
C	95 mm / 3.74"	H	76 mm / 3.0"
D	2.0 × 25 mm / 1.0"	I	∅ 15 mm / 0.6"
E	111 mm / 4.37"	J	780 mm / 30.71"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® XXL

FIVE XXL CHANNELS – THE HEAVY-DUTY ALL-ROUNDER

Developed for extreme work environments, the DEFENDER® XXL cable protection system provides five channels for large cable and hose diameters, including three channels suitable for type C fire hoses (only hoses up to Ø 62 mm / 2.4" – no coupling) as well as high-voltage cables. Integrated dog bone connectors facilitate linking to form a rigid continuous protector. End ramps are available for secure cable entry and exit. With a 5.0 ton/11,023 lb per 20 × 20 cm / 7.9" × 7.9" load capacity, DEFENDER® XXL protectors are ideal for heavy wheeled traffic, construction sites, warehouses, carnivals, fairs and music events. Built-in handles are supplied for easy portability.

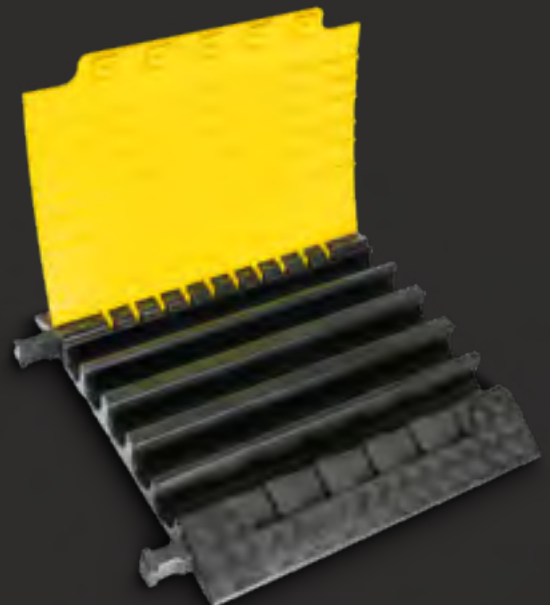
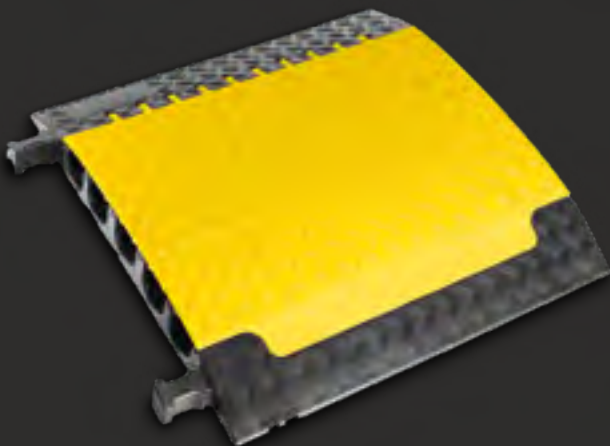
SPECIFICATIONS:

Art. No.:	85500
Product:	Five-channel cable protector
Channel W × H:	61 × 59 mm / 2.4" × 2.3" (channels 1 and 5), 62 × 65 mm / 2.4" × 2.6" (channels 2 and 4), 60 × 63 mm / 2.4" × 2.5" (channel 3)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton/11,023 lb / 20 × 20 cm / 7.9" × 7.9" (typical tyre footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	700 mm / 27.6"
Width:	696 mm / 27.4"
Height:	87 mm / 3.4"
Weight:	21.1 kg / 46.52 lb

OPTIONAL COMPONENTS:

DEFENDER® XXL END RAMP, connectors included

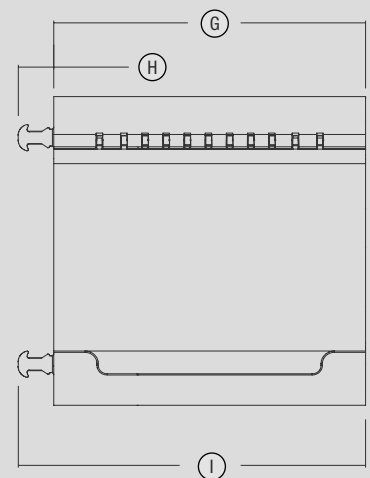
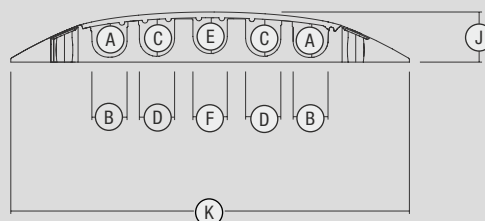
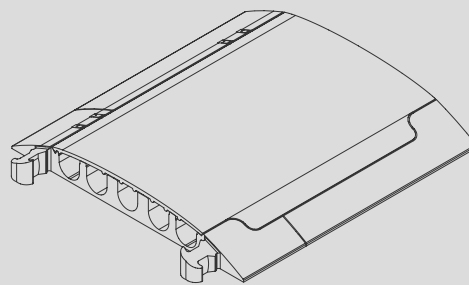
Art. No.: **85510**





**ALSO AVAILABLE
AS LUX VERSION!**
More info, page 8

Art. No. **85510**



A	60 mm / 2.36"
B	59 mm / 2.32"
C	63 mm / 2.48"
D	62 mm / 2.44"
E	58 mm / 2.28"
F	59 mm / 2.32"

G	700 mm / 27.6"
H	80 mm / 3.0"
I	780 mm / 30.7"
J	87 mm / 3.4"
K	696 mm / 27.4"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® 3

THREE BIG CHANNELS

Featuring a 73 mm / 2.9" profile, 45° curve and end ramps with detachable dovetail connectors, the DEFENDER® 3 cable protection system provides versatile cable routing and safe crossing for vehicles and pedestrians. With three medium-size channels, built-in handles for easy portability and a 5.0 ton/ 11,023 lb per 25 × 30 cm / 9.84" × 11.81" load capacity, the 73 mm / 2.9" profile DEFENDER® 3 cable protectors are the perfect all-round choice for a wide variety of applications, including heavy wheeled traffic, construction sites, warehouses, carnivals, fairs, trade shows, exhibitions, shopping centres and music events.

SPECIFICATIONS:

Art. No.:	85002
Product:	Three-channel cable protector
Channel W × H:	52 × 49 mm / 2.1" × 2.0"(channels 1 and 3), 45 × 50 mm / 1.8" × 2.0" (channel 2)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	5.0 ton/11,023 lb / 25 × 30 cm / 9.84" × 11.81" (typical tyre footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	1005 mm / 39.6"
Width:	607 mm / 23.9"
Height:	75 mm / 3.0"
Weight:	23.5 kg / 51.8 lb

OPTIONAL COMPONENTS:

DEFENDER® 3 45° CURVE with detachable lid and two dovetail connectors

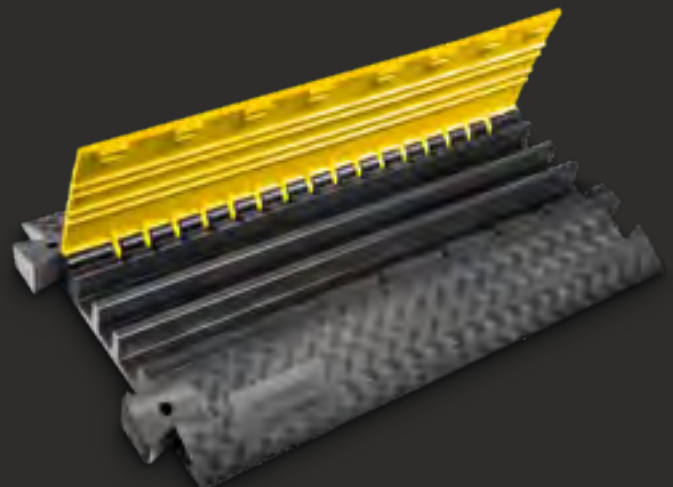
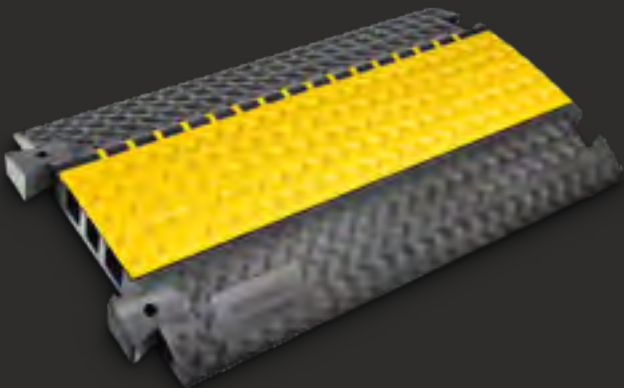
Art. No.: **85009**

DEFENDER® 3 END RAMP

Art. No.: **85008**

DEFENDER® 3 DOVETAIL CONNECTOR

Art. No.: **85004**





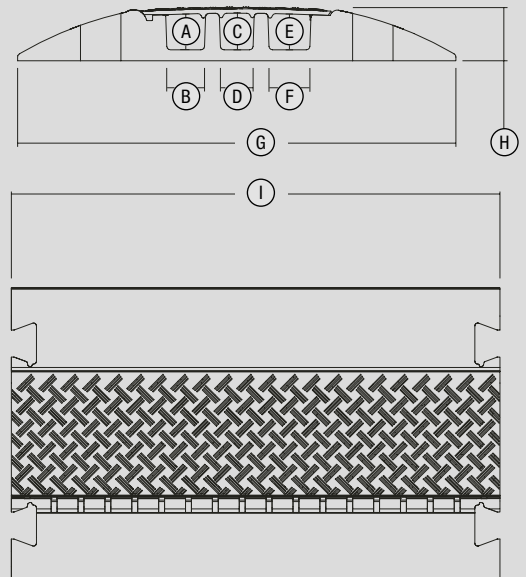
Art. No. **85009**



Art. No. **85008**



Art. No. **85004**



A	49 mm / 2.0"	D	45 mm / 1.8"	G	607 mm / 23.9"
B	52 mm / 2.1"	E	49 mm / 2.0"	H	75 mm / 3.0"
C	50 mm / 2.0"	F	56 mm / 2.2"	I	1005 mm / 39.6"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® 3 2D M

DEFENDER® 3 2D MODULAR SYSTEM FOR WHEELCHAIR RAMP AND BARRIER-FREE TRANSITION – MIDDLE PART

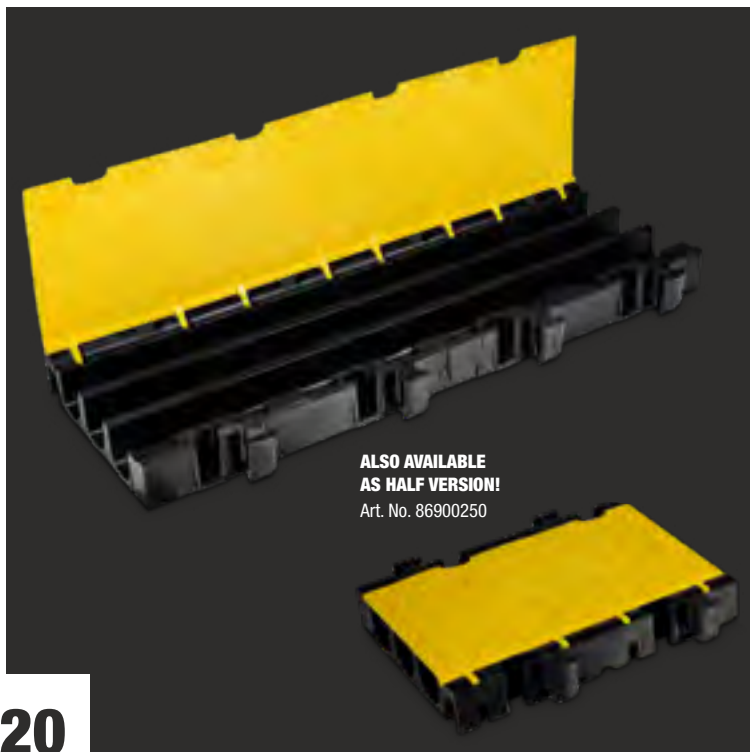
Middle section

'Barrier-free accessibility' has become a topic of mounting concern for both public authorities and event organisers over the past few years. With most common cable protector systems, a compromise usually has to be made between barrier-free access and trafficability. But this is not the case with the new DEFENDER® 3 2D: each middle section can be equipped with a 6°-inclined ramp that can be driven over completely without any problems. The flat incline makes it easy for wheelchair users to roll over the protectors with no trouble at all. They're also so stable that even forklifts and trucks can drive over them.

The system length and width can be expanded, and thus guarantee easy access and safety to areas where three channels are typically not enough, for example near power generators or FOH areas. Sound, lighting, power cables and hoses can be laid out individually, effortlessly and safely. The middle sections are designed to be symmetrical all the way around to facilitate assembly so that you never have to look for the right attachment piece ever again. As such, no assembly diagrams are required. The symmetrical set-up makes it possible to achieve excellent longitudinal and lateral stability by arranging middle sections and ramps. It also means there are no loose parts which can easily be lost, such as adapters and spanners. The connections have been designed to have enough space for easy installation while still providing stability. In case the cable protectors need to be installed without ramps, adapters are available to connect the middle sections with the popular DEFENDER® 3 lengthways.

SPECIFICATIONS:

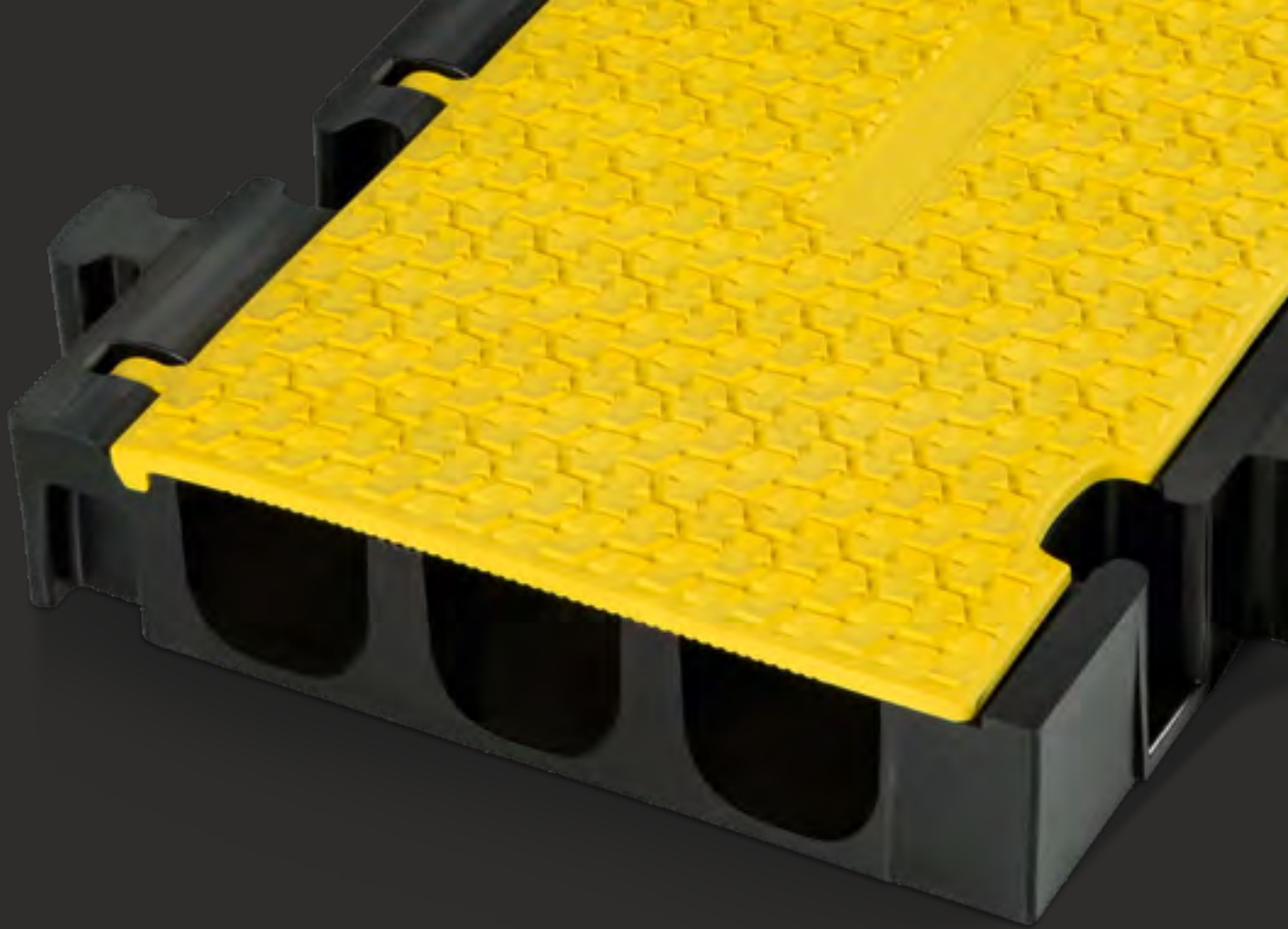
Art. No.:	869002
Product type:	Cable protectors
Type:	3 channels
Width:	330 mm / 13.0"
Height:	73 mm
Length:	1000 mm / 39.4"
Channels:	3
Width, channel 1:	52 mm / 2.05"
Height, channel 1:	49 mm / 1.93"
Width, channel 2:	45 mm / 1.77"
Height, channel 2:	50 mm / 1.97"
Width, channel 3:	52 mm / 2.05"
Height, channel 3:	49 mm / 1.93"
Material:	Polyurethane
Max. load:	Approx. 5 t on a surface area of 20 × 20 cm
Hardness range:	88 Shore ± 4 Shore
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Temperature range:	-40°C to +70°C / -40°F to +158°F
Weight:	13.5 kg / 29.76 lb



ALSO AVAILABLE
AS HALF VERSION!
Art. No. 86900250

Art. No. 8690021ASET

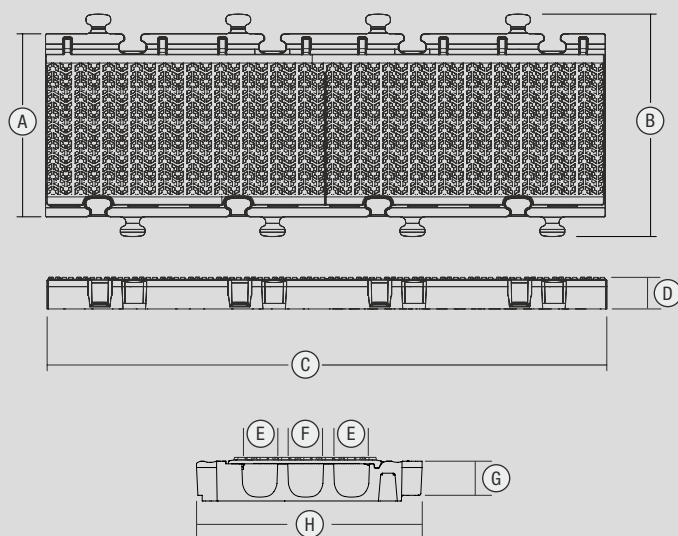
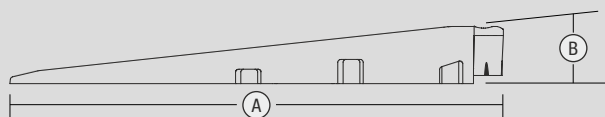




OPTIONAL COMPONENTS:
DEFENDER® 3 2D ADAPTER SET
 Art. No.: 8690021ASET
DEFENDER® 3 2D RAMP
 Art. No. 8690021

Art. No. 8690021

A 600 mm / 23.62"
 B 6°



A	330 mm / 13.0"	D	73 mm / 2.9"	G	68 mm / 2.7"
B	395 mm / 15.6"	E	52 mm / 2.1"	H	325 mm / 12.8"
C	1000 mm / 39.4"	F	45 mm / 1.78"		

STRONG ARGUMENTS



TÜV-SÜD-CERTIFIED

The DEFENDER® cable protection systems are certified by TÜV SÜD. The strict testing requirements and production controls of TÜV SÜD ensure that the DEFENDER® cable protectors meet the highest quality standards. In addition, the DEFENDER® cable protection systems meet the requirements of fire protection class E according to DIN EN 13501-1.



HIGH-TECH RAW MATERIAL

All DEFENDER® cable protectors are made of extremely sturdy, unbreakable TPU (thermoplastic polyurethane), produced from recycled and new plastic materials. They feature a fire resistance rating “normally inflammable” (also available soon as hardly inflammable) in compliance with DIN EN13051-1 and resistant to oil, petrol and short-term contact with solvent. The operating temperature range is approximately -30°C to $+60^{\circ}\text{C}$ [-22°F to 140°F]. The Shore A hardness range is 88 ± 4 .



SELF-CLEANING HINGE

Our cable protectors are equipped with self-cleaning hinges. The dirt gathering around the hinges is automatically pushed out when opening and closing the lid of the DEFENDER® cable protector. All DEFENDER® products are made of extremely sturdy, unbreakable TPU (thermoplastic polyurethane). If needed, the protectors can be easily cleaned using a steam jet cleaner.



EASY LOCK SYSTEM

The DEFENDER® cable protectors feature a very easy and efficient opening and locking system, allowing you to open and close the lid without tooling or special efforts. This exclusive feature also guarantees that the lid remains closed at all times, even when cars or trucks cross over it.





FIVE-YEAR GUARANTEE

We, like many companies, are completely convinced by the high quality, longevity and durability of the robust DEFENDER® cable protection systems. Therefore, we are delighted to provide a five-year guarantee on our DEFENDER® cable protector systems.



EASY TO CONNECT

The DEFENDER® cable protection systems also offer high-quality accessories to adapt your configuration to each new location, such as end ramps, 90° and 45° bends. Each cable protector has connectors and corresponding sockets that enable you to connect cable protectors in the same series continuously with each other with maximum stability.



LABEL YOUR CABLE PROTECTORS

Self-branding of your cable protectors has three main advantages:
Advertisement for your brand / Corporate identity conformity / Avoids mixing up your equipment with another company's at large events. Self-branding of the DEFENDER® cable protectors with the logo of your company can be purchased for orders exceeding 30 pieces. You will find the logo format requirements on our website. Feel free to contact our sales team for more information at: sales@adamhall.com



EASY HANDLING

The heaviest DEFENDER® cable protection systems are equipped with transport handles (DEFENDER® XXL, DEFENDER® 3 and DEFENDER® MIDI). The DEFENDER® BOX provides safe and practical storage but also a logistically efficient solution for the transport of many protectors at once (EUR-pallet dimensions).



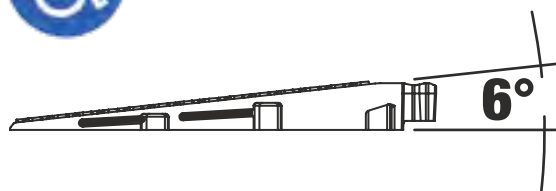


FLEXIBLE IN NEW DIMENSIONS: **DEFENDER®** 2D

INNOVATIVE IN APPLICATION,
THE ULTIMATE IN FLEXIBILITY.

DEFENDER® 2D – that's the name of our new modular plug-in system. For you, this means: maximum flexibility in every situation. No matter whether it's a small festival or a large construction site with extremely rough terrain. The reason for the great flexibility of DEFENDER® 2D lies in the pluggable middle section modules. These ensure that the system can be easily extended in length and width.

DEFENDER® 2D lives up to its name in every environment: the system reliably protects cables and hoses on construction sites as well as at outdoor events. Not even trucks driving over it can harm the robust construction. The naming system is as simple as the installation: all products matching DEFENDER® 2D have '2D' in their name, for example 'MIDI 5 2D'.



NO BARRIERS WHATSOEVER

Accessibility is a fundamental requirement everywhere these days, and especially at events. That's why the modular DEFENDER® 2D cable protector exists, with an incredible 6° slope ramp, which can be extended both widthways and lengthways, without restriction. Flexible, robust, unlimited and TÜV type-tested.

STAY ON THE SAFE SIDE: half-length middle part modules give several ramp parts enormously high durability in combination next to each other.

DEFENDER® 2D in combination with **DEFENDER® MIDI 5**
Combine the new MIDI 5 2D middle part modules quickly and easily with products from the proven MIDI 5 series using adapters. All module parts are also available in the signal colour blue.

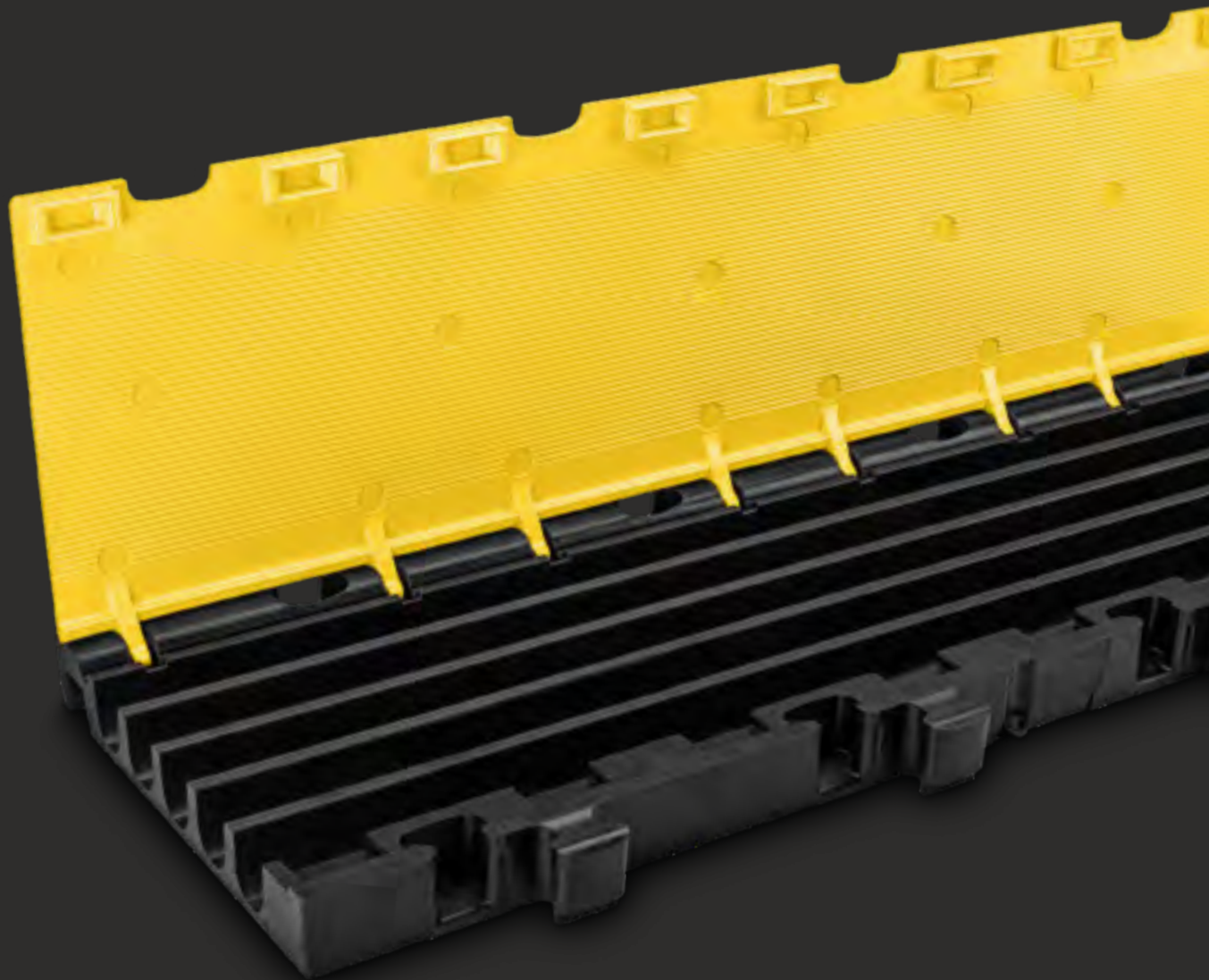
DEFENDER® MIDI SERIES



Your cable protection system must cater to many different demands. That's why the multifaceted, extremely flat yet secure DEFENDER® MIDI cable protector is designed for a whole range of indoor and outdoor uses. It can withstand loads of approx. 5 tons per 20 × 20 cm, making it fit for heavy-duty traffic, construction sites, warehouses, shopping centres, trade fairs, exhibitions, carnivals and music events as well as broadcasting studios.

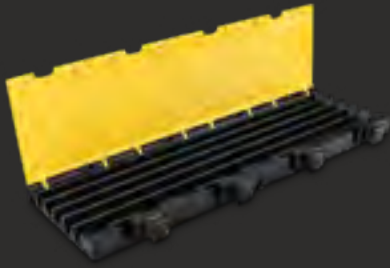
Two versions are available: one with five cable channels in order to securely lay out power, sound and light cables, the other with three cable channels and a wide hose guard for laying down a pressure hose alongside individual cables. Their built-in connectors and handles make sure they are simple to use and lighten the load of your employees.

DEFENDER® MIDI cable protection systems are decked out for any event and are highly flexible thanks to the extensive range of accessories available, such as the 45° curve pieces and end ramps which allow you to put together a wide variety of continuous cable paths. Different coloured lids – yellow for hi-vis, black for subtly blending into the environment – are further examples of how you can individually use cable protection systems.



THE MIDI CABLE PROTECTION SYSTEMS IN COMPARISON

MIDI 5 2D

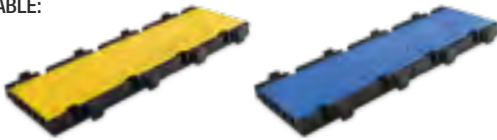


5 CHANNELS:

34 × 36 MM

COLOURS AVAILABLE:

- With yellow lid
- With blue lid



HALF VERSION AVAILABLE



ACCESSORIES:

RAMP:

MIDI 5 2D ADAPTER TO MINI, FEMALE/MALE



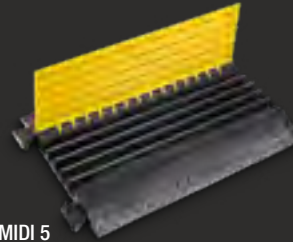
MIDI 5 2D ADAPTER, FEMALE/MALE



For further information see page 30–31

For further information see page 32–33

MIDI 5

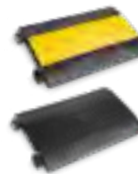


5 CHANNELS:

34 × 36 MM

AVAILABLE AS:

- With yellow lid
- With black lid
- LUX



MIDI C:

45° curve, 5 channels



ACCESSORIES:

MIDI 5 2D R

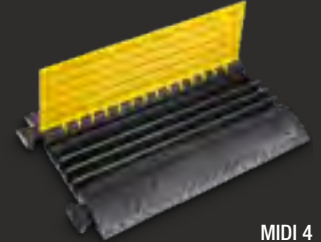


MIDI 5 2D RS



For further information see page 28–29

MIDI 4



4 CHANNELS:

1 CHANNEL 80 × 36 MM (FOR C-PRESSURE HOSES) AND 3 CHANNELS 34 × 36 MM

AVAILABLE AS:

- With yellow lid
- With black lid
- LUX

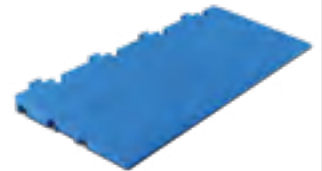


MIDI 5 2D ADAPTER SET:

Adapter set for connecting middle section/ramp with MIDI cable protector.



MIDI 5 2D R BLU



MIDI 5 2D SET BLU



RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® MIDI 5

FIVE MEDIUM CHANNELS – THE SOLUTION FOR NEARLY ANYTHING

The DEFENDER® MIDI cable protection system has been designed for maximum routing versatility and secure crossings. Featuring a low profile, 5.0 ton / 11,023 lb per 25 × 30 cm / 9.84" × 11.81" load capacity, integrated connectors and handles, the straight ramp, 45° curve and end ramps are easily linked to form a continuous cable guard while five 34 × 36 mm / 1.3" × 1.4" channels allow for individual sound, lighting and power line arrangement. DEFENDER® MIDI cable protectors are ideal for a multitude of usages such as heavy wheeled traffic, construction sites, warehouses, carnivals, fairs, trade shows, exhibitions, shopping centres, broadcasting and music events.

SPECIFICATIONS:

Art. No.:	85300
Product:	Five-channel cable protector
Channel W × H:	34 × 36 mm / 1.3" × 1.4" (channels 1 to 5)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton / 11,023 lb / 25 × 30 cm / 9.84" × 11.81" (typical tyre footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	870 mm / 34.3"
Width:	538 mm / 21.2"
Height:	55 mm / 2.2"
Weight:	13.5 kg / 27.8 lb

OPTIONAL COMPONENTS:

DEFENDER® MIDI 45° CURVE for DEFENDER® MIDI

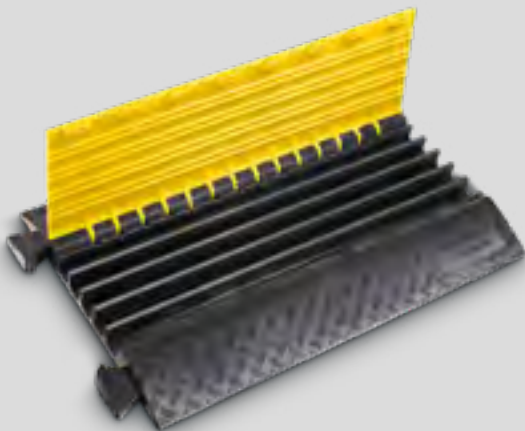
Connectors are detachable and can be mounted on both sides.

Art. No.: **85310**

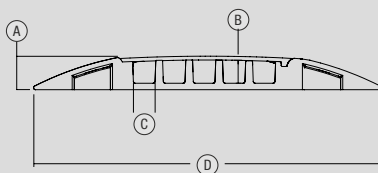
DEFENDER® MIDI END RAMP, connectors included

Art. No.: **85308**

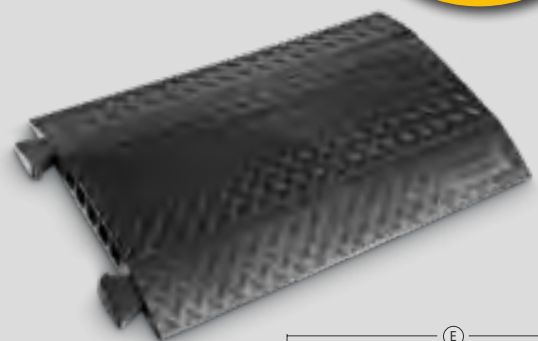
**ALSO AVAILABLE
AS LUX VERSION!**
More info, page 8



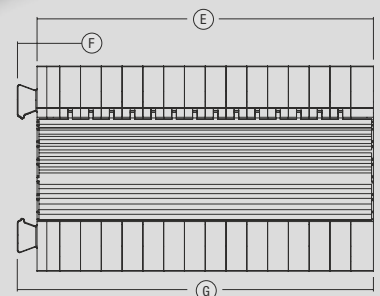
A	55 mm / 2.2"
B	35 mm / 1.38"
C	34 mm / 1.3"
D	538 mm / 21.2"



With black lid
Art. No. **85300BLK**



E	870 mm / 34.3"
F	52 mm / 2.1"
G	942 mm / 37"



RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® MIDI 4

THREE MEDIUM-SIZED CABLE CHANNELS – ONE LARGE CHANNEL FOR FIRE HOSES

With one wide 80 × 36 mm / 3.2" × 1.4" channel and three 34 × 36 mm / 1.3" × 1.4" ducts, the DEFENDER® MIDI 4 cable protection system is the perfect choice when a lay-flat hose must be run next to separate sound, lighting and power lines. Featuring integrated connectors, the low profile and 5.0 ton/11,023 lb per 25 × 30 cm / 9.84" × 11.81" load capacity of the DEFENDER® MIDI system MIDI 4 protectors are suitable for heavy wheeled traffic, construction sites, warehouses, carnivals, fairs, trade shows, exhibitions, shopping centres and music events.

SPECIFICATIONS:

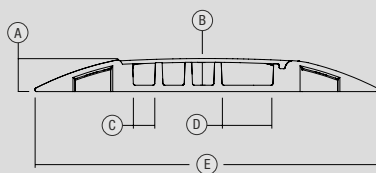
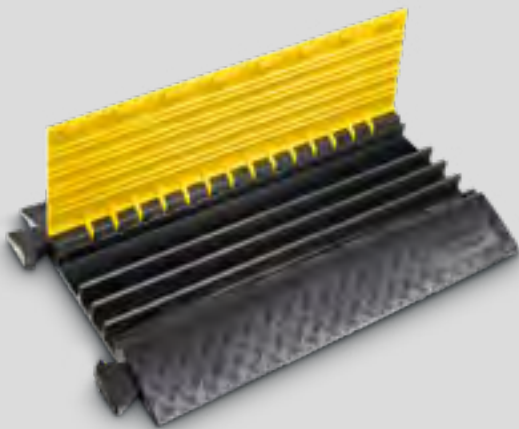
Art. No.:	85301
Product:	Four-channel cable protector
Channel W × H:	34 × 36 mm / 1.3" × 1.4" (channels 1 to 3), 80 × 36 mm / 3.2" × 1.4" (channel 4)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton/11,023 lb per typical tyre imprint (25 × 30 cm / 9.84" × 11.81")
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	870 mm / 34.3"
Width:	538 mm / 21.2"
Height:	55 mm / 2.2"
Weight:	12.55 kg / 27.7 lb

OPTIONAL COMPONENTS:

DEFENDER® MIDI END RAMP, connectors included

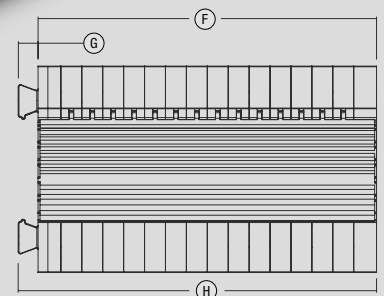
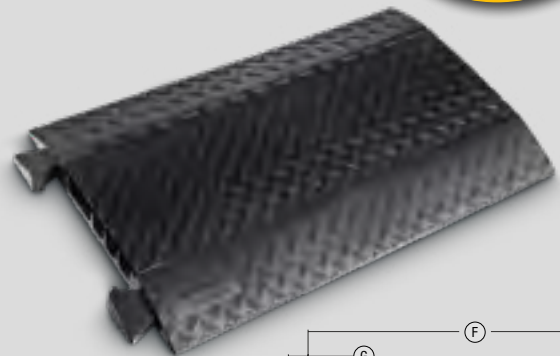
Art. No.: **85308**

ALSO AVAILABLE AS LUX VERSION!
More info, page 8



A	55 mm / 2.2"
B	36 mm / 1.4"
C	34 mm / 1.3"
D	80 mm / 3.2"

With black lid
Art. No. **85301BLK**



E	538 mm / 21.2"
F	872 mm / 34.33"
G	51 mm / 2.01"
H	923 mm / 36.34"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® MIDI 5 2D

MIDI 5 2D MODULE SYSTEM FOR WHEELCHAIR RAMP AND BARRIER-FREE TRANSITION – MIDDLE PART

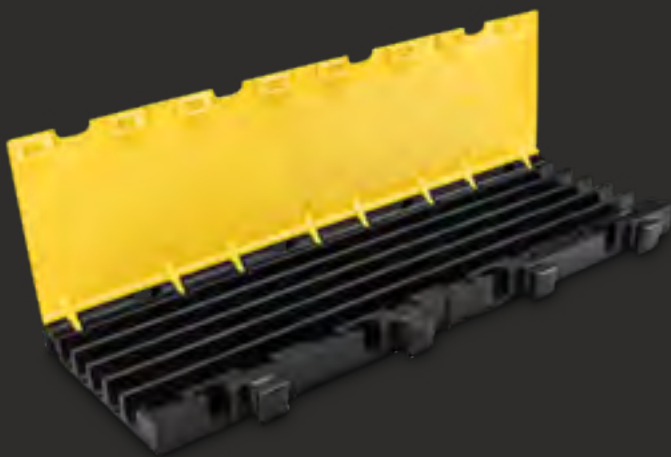
Middle section

'Accessibility' has become a topic of mounting concern for both public authorities and event organisers over the past few years. With most common cable protector systems, a compromise usually has to be made between barrier-free access and trafficability. But this is not the case with the new DEFENDER® 2D M: each middle section can be equipped with a 6°-inclined, barrier-free ramp that can be driven over completely without any problems. The flat incline makes it easy for wheelchair users to roll over the protectors with no trouble at all. They're also so stable that even forklifts and trucks can drive over them.

The system length and width can be expanded, and thus guarantee easy access and safety to areas where five channels are typically not enough, for example near power generators or FOH areas. Sound, lighting and mains cables can be laid out individually, effortlessly and safely. The middle sections are designed to be symmetrical all the way around to facilitate assembly so that you never have to look for the right attachment piece ever again. As such, no assembly diagrams are required. The symmetrical set-up makes it possible to achieve excellent longitudinal and lateral stability by arranging middle sections and ramps. It also means there are no loose parts which can easily be lost, such as adapters and spanners. The connections were engineered to provide enough room to adjust for simple assembly but also to offer a sufficient level of stability. Adapters for joining middle sections longitudinally are also available should the cable protectors need to be installed without ramps.

SPECIFICATIONS:

Art. No.:	869300
Product type:	Cable protectors
Type:	5 channels
Length:	1000 mm / 39.4"
Height:	58 mm / 2.3"
Width:	325 mm / 12.8"
Channels:	5
Width, channel 1:	34.5 mm / 1.4"
Height, channel 1:	38.6 mm / 1.5"
Width, channel 2:	34.5 mm / 1.4"
Height, channel 2:	38.6 mm / 1.5"
Width, channel 3:	34.5 mm / 1.4"
Height, channel 3:	38.6 mm / 1.5"
Width, channel 4:	34.5 mm / 1.4"
Height, channel 4:	38.6 mm / 1.5"
Width, channel 5:	34.5 mm / 1.4"
Height, channel 5:	38.6 mm / 1.5"
Material:	Polyurethane
Max. load:	Approx. 5 t on a surface area of 20 x 20 cm
Resistant to:	Oil, petrol and short-term contact with solvent
Hardness range:	88 Shore ± 4 A Shore
Fire classification:	Class E in accordance with DIN EN 13501-1
Temperature range	-30°C to 60°C / -22°F to +140°F
Weight:	11.6 kg / 25.6 lb



ALSO AVAILABLE AS HALF VERSION!

Art. No. 869350

Art. No. 869350BLU



Art. No. **869300AEF**

Art. No. **869300AEM**

(Adapter)

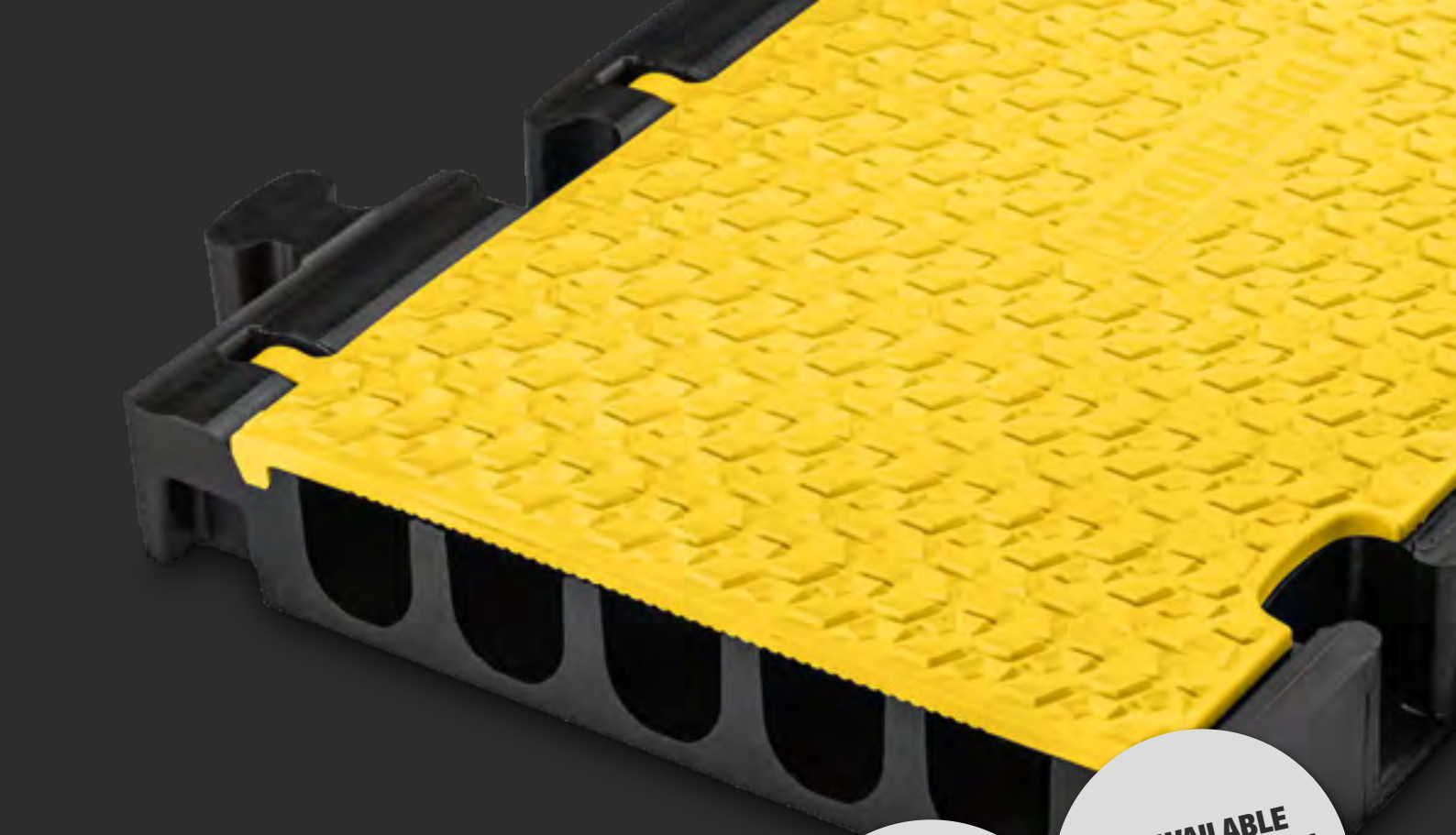


Art. No. **869300AE2F**

Art. No. **869300AE2M**

(Adapter)

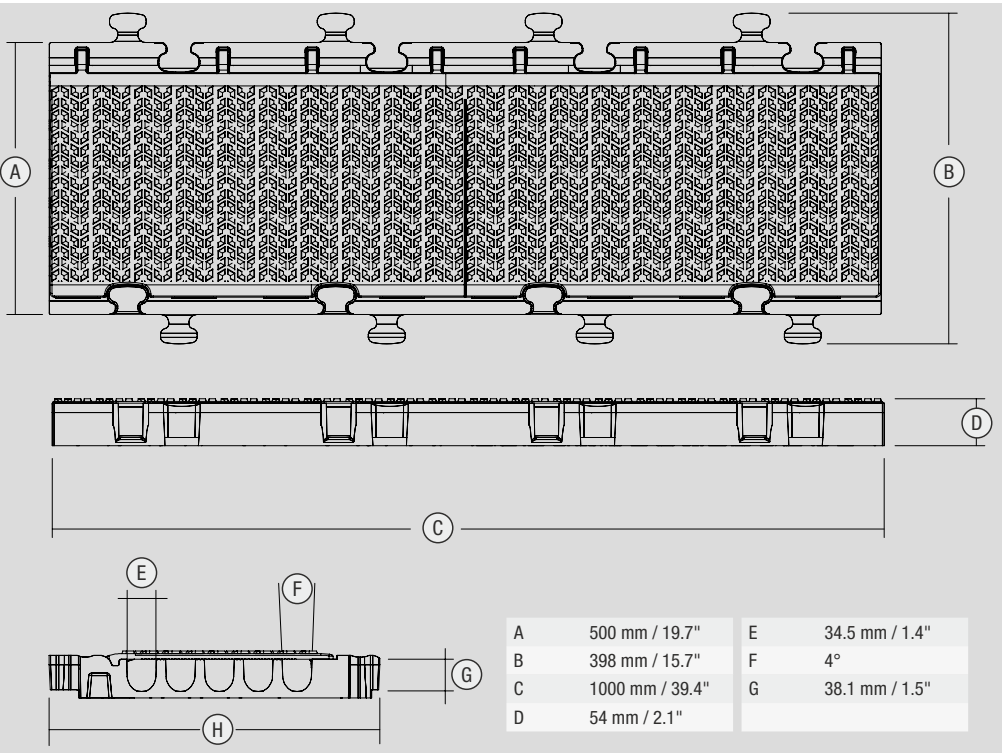




OPTIONAL COMPONENTS:
DEFENDER® 5 2D ADAPTER SET
 Art. No.: 869301ASET
DEFENDER® 5 2D RAMP
 Art. No. 869301

NEW!
MODULE SYSTEM
FOR BARRIER-
FREE ACCESS
 More info, page 8

ALSO AVAILABLE
AS BLUE VERSION!

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® MIDI 5 2D – RAMPS

The ramps are designed to be symmetrical all the way around to facilitate assembly so that you never have to look for the right attachment piece ever again. The sections can be used in several directions as there are no right or left elements. As such, no assembly diagrams are required. The symmetrical set-up makes it possible to achieve excellent longitudinal and lateral stability by arranging middle sections and ramps. It also means there are no loose parts which can easily be lost, such as adapters and spanners.

The connections were engineered to provide enough room to adjust for simple assembly but also to offer a sufficient level of stability. To connect ramps lengthways, for example, there's a small protrusion that snaps into place by pressing down on it from above. Elements don't have to be lifted up again after the cross-connector has been attached. Furthermore, the ramps feature an ergonomic handle to simplify handling, too.

MIDI 5 2D R

'Accessibility' has become a topic of mounting concern for both public authorities and event organisers over the past few years. With most common cable protector systems, a compromise usually has to be made between wheelchair access and trafficability. But that's not the case with the new DEFENDER® 2D M: each middle section is equipped with a 6°-inclined, wheelchair-accessible ramp that can be driven over completely without any problems. The ramp has the same load capacity as the middle section and can accommodate loads of approx. 5 tons per 25 × 30 cm. The flat incline makes it much easier for wheelchair users to roll over the protectors since the footrests don't touch the ramp, and forklifts and trucks also have an easy time driving over the cable protectors because of it.

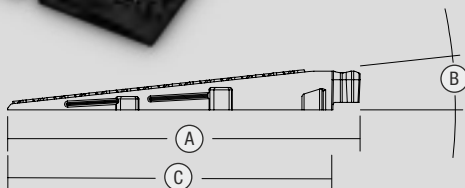
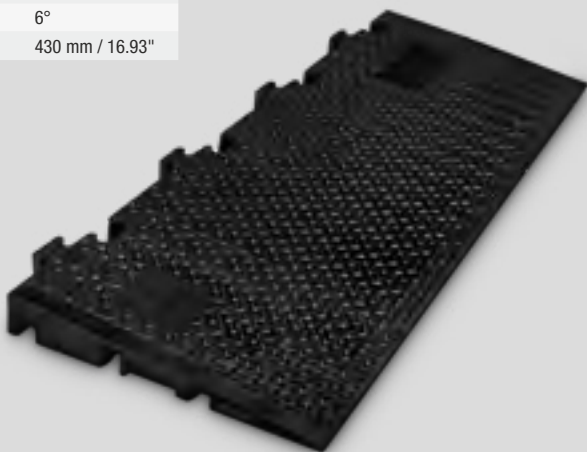
SPECIFICATIONS:

Art. No.:	869301	869302
Type:	Ramp module	Ramp module
Material:	Polyurethane	Polyurethane
Length:	1000 mm / 39.4"	1000 mm / 39.4"
Height:	54 mm / 2.12"	54 mm / 2.12"
Width:	430 mm / 16.93"	172 mm / 6.77"
Colour:	Black	Black
Max. load:	Approx. 5 t on a surface area of 25 × 30 cm	Approx. 5 t on a surface area of 25 × 30 cm
Hardness range:	88 Shore ± 4 A Shore	88 Shore ± 4 A Shore
Fire classification:	Class E in accordance with DIN EN 13501-1	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent	Oil, petrol and short-term contact with solvent
Temperature range:	-30°C to +60°C / -22°F to +140°F	-30°C to +60°C / -22°F to +140°F
Weight:	9.6 kg / 21.17 lb	4.6 kg / 10.14 lb

MIDI 5 2D R
Art. No. **869301**

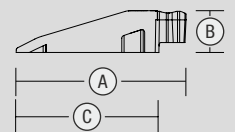


A	465 mm / 18.31"
B	6°
C	430 mm / 16.93"



MIDI 5 2D RS
Art. No. **869302**

A	205 mm / 8.1"
B	53 mm
C	172 mm / 6.77"



RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



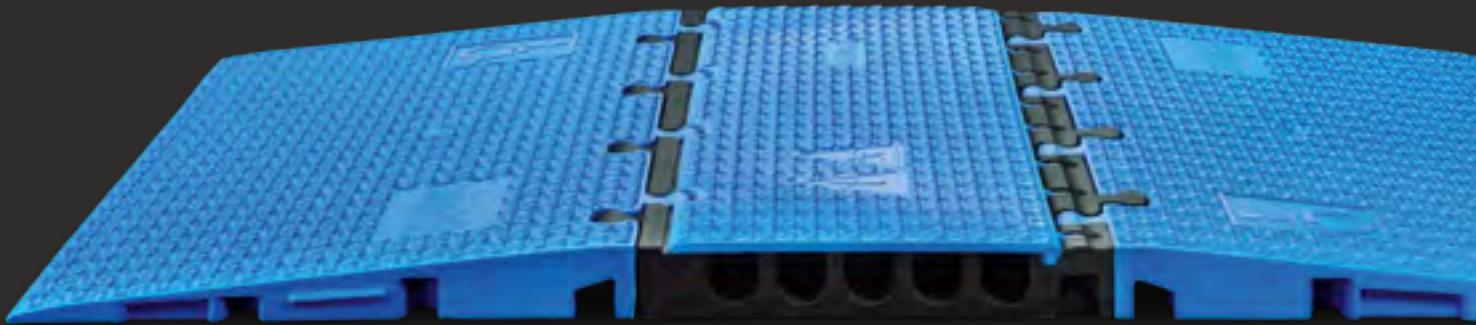
DEFENDER® MIDI 5 2D SET BLU

COMPLETE SET MIDI 5 2D MODULAR SYSTEM, CONSISTING OF TWO RAMPS AND A FIVE-CHANNEL MIDDLE PART, BLUE

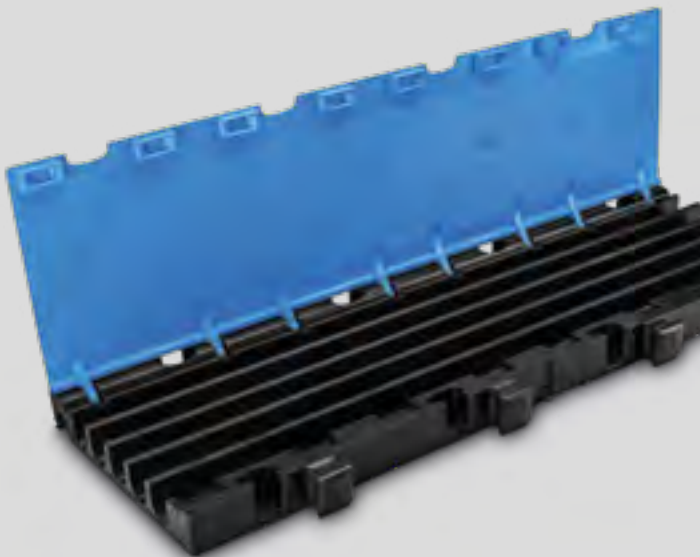
The modular cable protector DEFENDER® 2D M Blue was developed on the basis of our popular DEFENDER® MIDI cable protectors for optimal wheelchair crossing. It consists of a MIDI-compatible blue middle part and two flat blue ramps, which can be extended and combined as required, both in length and width. Features extremely easy handling.

COMPLETE SET DEFENDER® MIDI 5 2D SET BLU

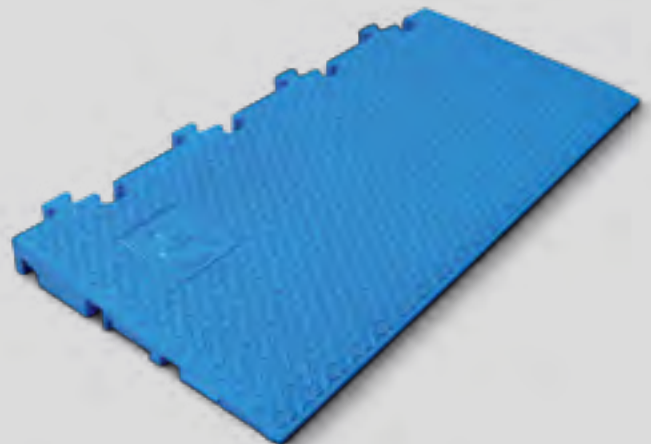
Art. No.: 869300SETBLU



Art. No. 869300BLU



Art. No. 869301BLU



RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® MINI

THREE SMALL CHANNELS – THE LIGHTWEIGHT CHAMPION

Available with a choice of black or yellow lids, the DEFENDER® MINI cable protection system is ideal for both indoor and outdoor use. The compact, low profile three-channel ramp with integrated dog bone connectors features a slip-resistant underside for superior grip on a wide variety of surfaces. Male and female end ramps are available to provide secure and tidy cable entry and exit. With a 2.0 ton/4,409 lb per 20 × 20 cm / 7.9" × 7.9" load capacity, DEFENDER® MINI protectors support lightweight vehicles, carts and pedestrian traffic. Applications include carnivals, fairs, trade shows, exhibitions, shopping centres, warehouses, stages, studios and broadcasting. Not suitable for road traffic.

SPECIFICATIONS:

Art. No.:	85200
Product:	Three-channel cable protector
Channel W × H:	35 × 30 mm / 1.4" × 1.2" (channels 1 and 3), 35 × 35 mm / 1.4" × 1.4" (channel 2)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Max. load capacity:	Tons (area 20 × 20 cm) 1.2 T / 2645.6 lb 2.0 T / 4409.4 lb
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	1005 mm / 39.6"
Width:	290 mm / 11.4"
Height:	50 mm / 2.0"
Weight:	5.85 kg / 12.9 lb

OPTIONAL COMPONENTS:

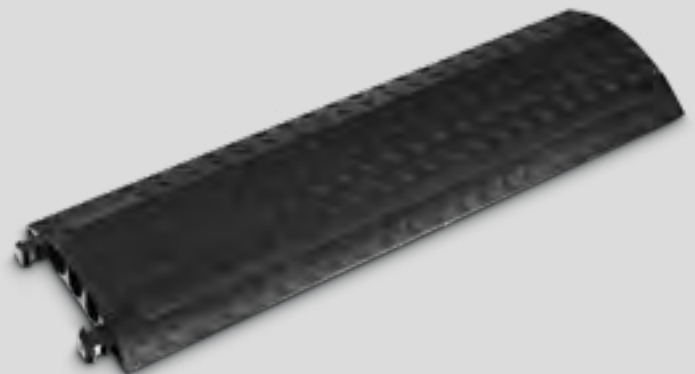
DEFENDER® MINI END RAMP, FEMALE
Art. No.: **85208F**

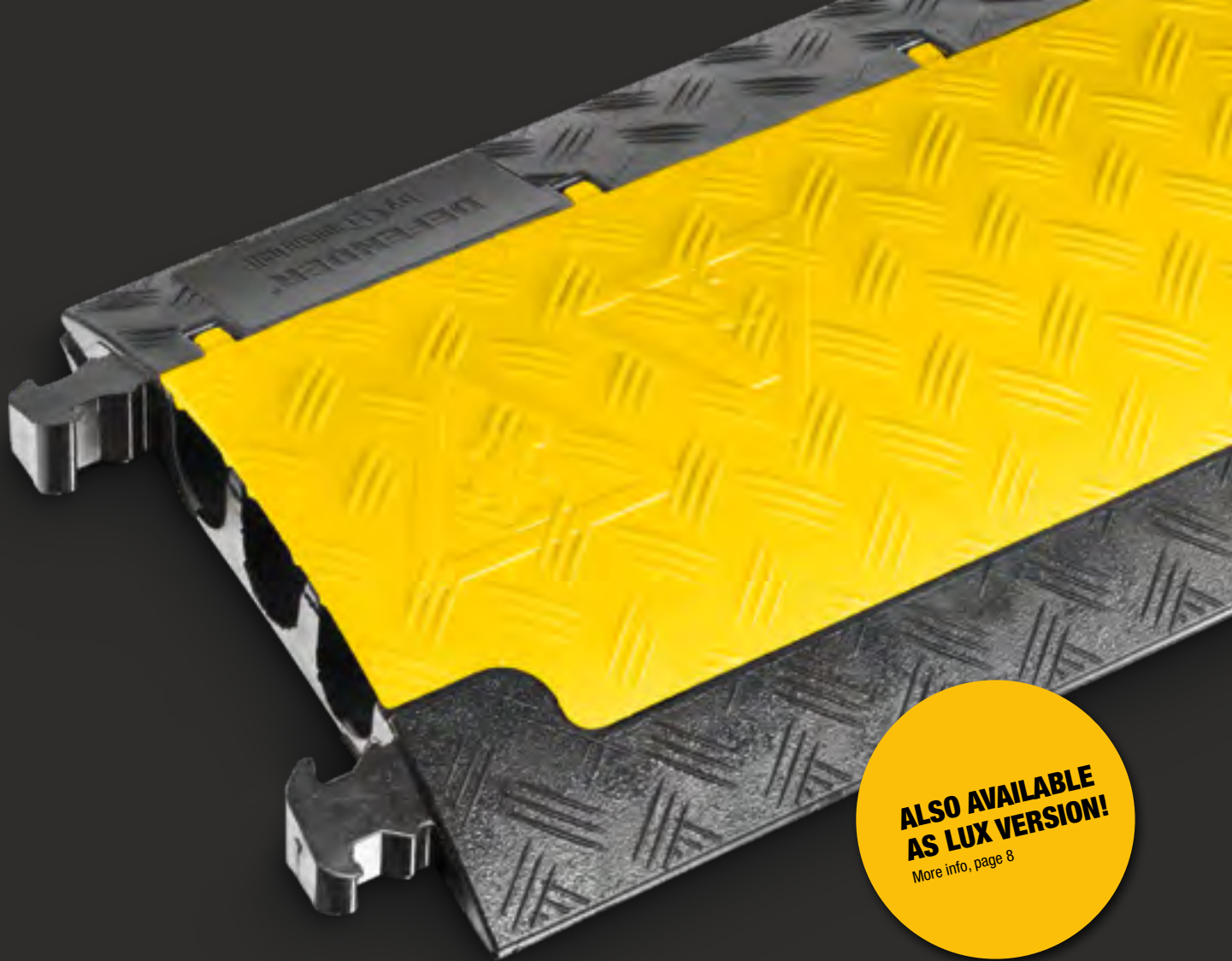
DEFENDER® MINI END RAMP, MALE
Art. No.: **85208M**

DEFENDER® MINI L 45° CURVE LEFT
Art. No.: **85210L**

DEFENDER® MINI R 45° CURVE RIGHT
Art. No.: **85210R**

With black lid
Art. No. **85200BLK**

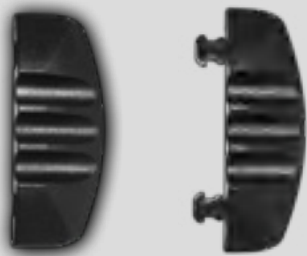




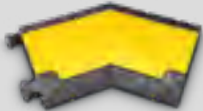
**ALSO AVAILABLE
AS LUX VERSION!**
More info, page 8

Art. No. **85208F**

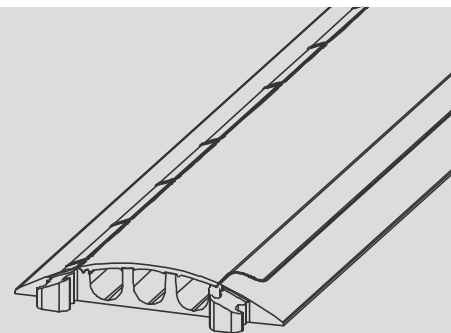
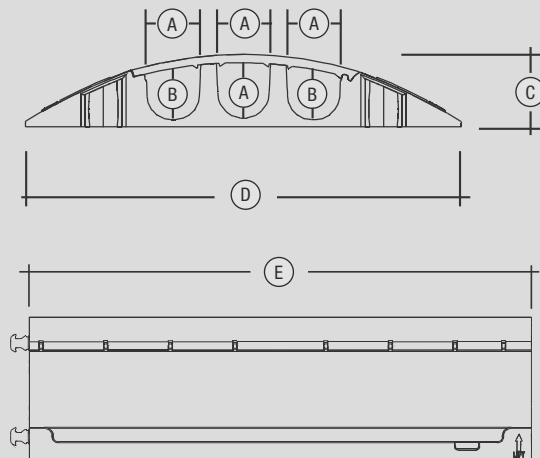
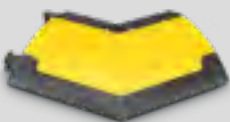
Art. No. **85208M**



Art. No. **85210L**



Art. No. **85210R**



A	35 mm / 1.4"
B	30 mm / 1.2"
C	50 mm / 2.0"
D	290 mm / 11.4"
E	1005 mm / 39.6"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® MICRO 2

TWO SMALL CHANNELS – THE MICRO MAESTRO

The compact DEFENDER® MICRO cable protector is ideally suited to indoor and outdoor use, such as at exhibitions and trade fairs and in shopping centres, on stages or in studios. It has two 35 × 30 mm cable guides for high-power cables and water hoses. With a maximum load capacity of 2 tons per 20 × 20 cm area, MICRO cable protectors are able to withstand vehicles, trolleys and pedestrians. Their high level of tread and slip resistance is derived from the LaserGrip® surface with its special structure and unique design. Extremely breakage-resistant TPU material ensures the durability of the robust cable protector.

SPECIFICATIONS:

Art. No.:	86100
Product:	Two-channel cable protector
Channel W × H:	30 × 30 mm / 1.2" × 1.2" (channels 1 and 2)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Max. load capacity:	Tons (area 20 × 20 cm) 1.3 T / 2866.01 lb 2.0 T / 4409.4 lb
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	1005 mm / 39.6"
Width:	273 mm / 10.7"
Height:	45 mm / 1.8"
Special feature:	TÜV type-tested / production-monitored
Weight:	5.35 kg / 11.8 lb

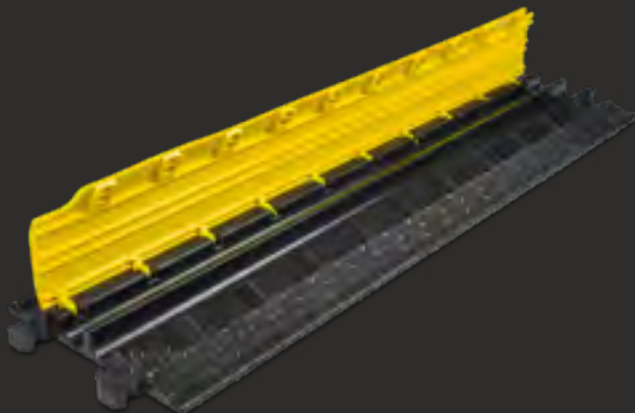
OPTIONAL COMPONENTS:

DEFENDER® MICRO END RAMP, FEMALE

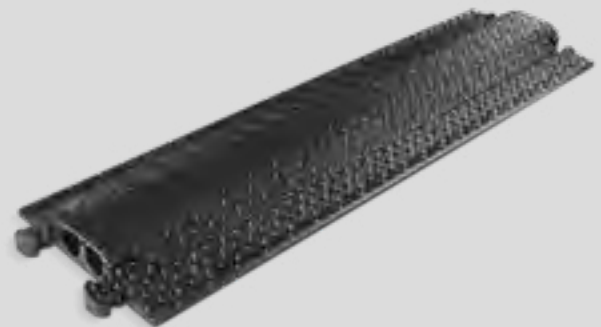
Art. No.: **86101F**

DEFENDER® MICRO END RAMP, MALE

Art. No.: **86101M**



With black lid
Art. No. **86100BLK**





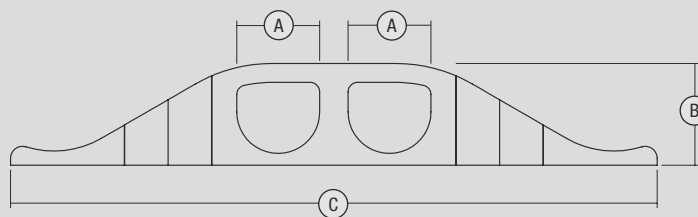
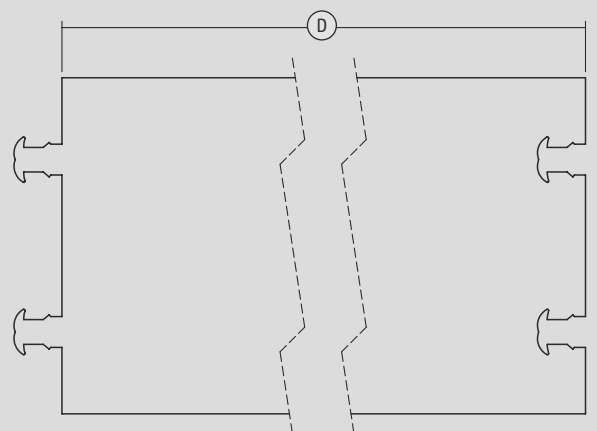
NEW!
3D LASERGRIP®
SURFACE

**ALSO AVAILABLE
 AS LUX VERSION!**
 More info, page 8

Art. No. **86101F**



Art. No. **86101M**



A	35 mm / 1.4"
B	45 mm / 1.8"
C	273 mm / 10.7"
D	1005 mm / 39.6"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / events / department stores / construction sites, streets, etc.



DEFENDER® NANO

SIX SLIM CHANNELS – DISCREET OUTDOOR / INDOOR PROTECTION

Providing convenient wheelchair access, the DEFENDER® NANO cable protection system is the ultra-low-profile solution for a wide range of indoor and outdoor applications. Available with a black or yellow lid, DEFENDER® NANO protectors feature six channels for clean and tidy cable arrangement, T-shaped connectors, and a 2.0 ton/4,409 lb per 20 × 20 cm / 7.9" × 7.9" load capacity to support lightweight vehicles, carts and pedestrian traffic, as well as forklifts and pallet trucks, thanks to their low-height design. Male and female end ramps are available to provide secure cable entry and exit.

The DEFENDER® NANO protection system is ideal for carnivals, fairs, trade shows, exhibitions, shopping centres, warehouses, stages, studios and broadcasting. Not suitable for road traffic.

SPECIFICATIONS:

Art. No.:	85150	
Product:	Six-channel cable protector	
Channel W × H:	17 × 19 mm / 0.7" × 0.7" (channels 1, 2, 5, 6); 17 × 19 mm / 0.7" × 0.7" (channels 3, 4)	
Material:	TPU (thermoplastic polyurethane)	
Shore A hardness:	88 ± 4	
Load capacity:	Tons (area 20 × 20 cm)	Channel filling height
	2.0 T / 4409.25 lb	13 mm
Fire classification:	Class E in accordance with DIN EN 13501-1	
Resistant to:	Oil, petrol and short-term contact with solvent	
Operating temperature:	-30°C to +60°C / -22°F to 140°F	
Length:	1010 mm / 39.8"	
Width:	285 mm / 11.2"	
Height:	32 mm / 1.3"	
Weight:	7.85 kg / 17.31 lb	

OPTIONAL COMPONENTS:

DEFENDER® NANO END RAMP, FEMALE

Art. No.: **85158F**

DEFENDER® NANO END RAMP, MALE

Art. No.: **85158M**



With black lid
Art. No. **85150BLK**



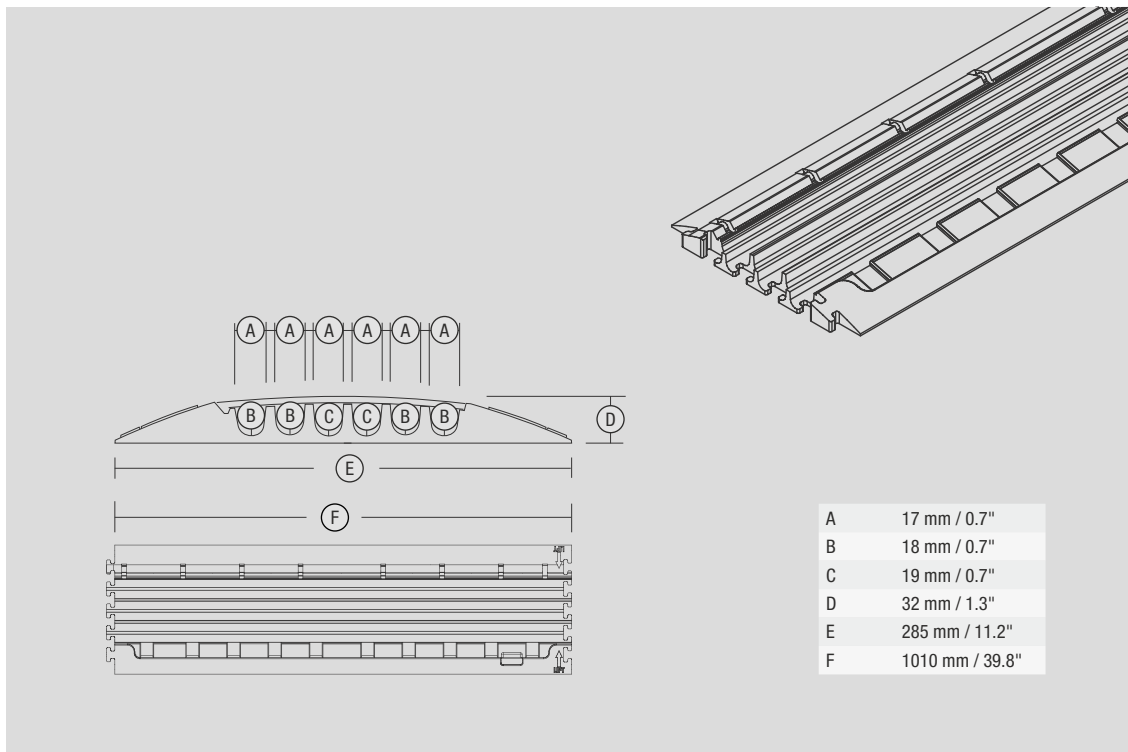


**ALSO AVAILABLE
AS LUX VERSION!**
More info, page 8

Art. No. **85158F**



Art. No. **85158M**



RANGE OF APPLICATION

Mainly in halls, trade fairs, etc.



DEFENDER® COMPACT

SEVEN SMALL CHANNELS – THE DROP-OVER SOLUTION

The DEFENDER® COMPACT drop-over cable protector is a durable light-duty solution to guard cable lines and prevent tripping hazards. Featuring a ribbed surface for excellent traction and integrated dovetail connectors, DEFENDER® COMPACT drop-over cable ramps are suitable for pedestrian traffic in offices, shopping centres, conference facilities, trade shows and markets, as well as stage and studio applications.

DEFENDER® COMPACT WITH BASE (85100 + 85103)

Attached to the optional five-channel base, the DEFENDER® COMPACT drop-over cable protector transforms into a heavy-duty guard with high load capacity to support trucks, forklifts and other vehicles. The ribbed surface provides excellent traction while integrated connectors on the base and drop-over facilitate lining up to form a rigid continuous protection system. The range of applications includes construction sites, carnivals, fairs, trade shows, exhibitions, warehouses, shopping centres and music events.

SPECIFICATIONS:

Art. No.:	85100	85103 (optional base), 85100 (drop-over)
Product:	Seven-channel cable protector	Five-channel cable protector
Channel W × H:	28 × 23 mm / 1.1" × 0.9" (channels 1 and 7), 28 × 27 mm / 1.1" × 1.1" (channels 2 and 6), 28 × 29 mm / 1.1" × 1.1" (channels 3 and 5), 28 × 30 mm / 1.1" × 1.1" (channel 4)	22 × 21 mm / 0.9" × 0.9" (channels 1 to 5)
Material:	TPU (thermoplastic polyurethane)	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4	88 ± 4
Load capacity:	See description above	See description above
Fire classification:	Class E in accordance with DIN EN 13501-1	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F	-30°C to +60°C / -22°F to 140°F
Length:	810 mm / 31.9"	810 mm / 31.9"
Width:	425 mm / 25.4"	235 mm / 9.3"
Height:	37 mm / 1.5"	30 mm / 1.2"
Weight:	3.65 kg / 8.1 lb	2 kg / 4.41 lb (base with drop-over)

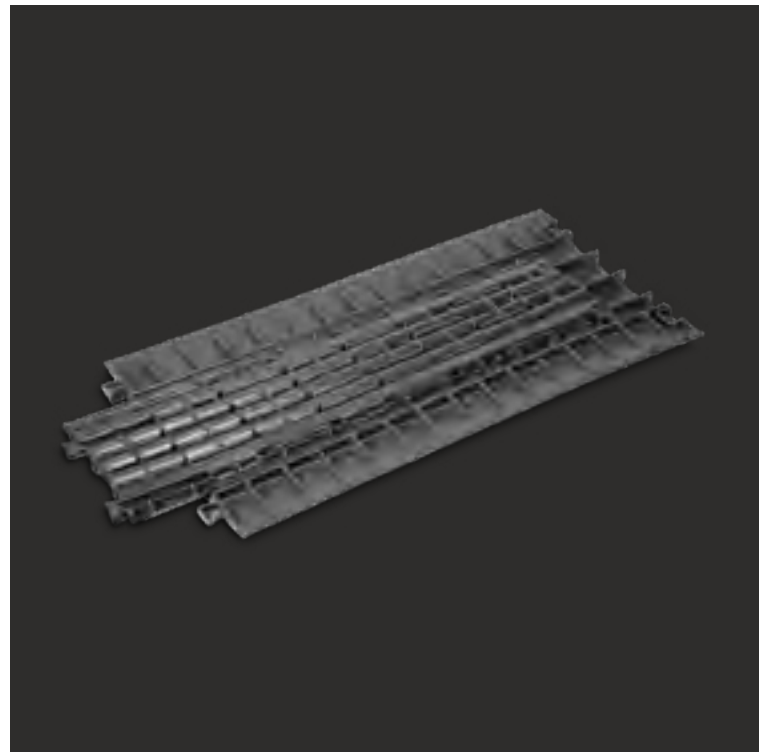
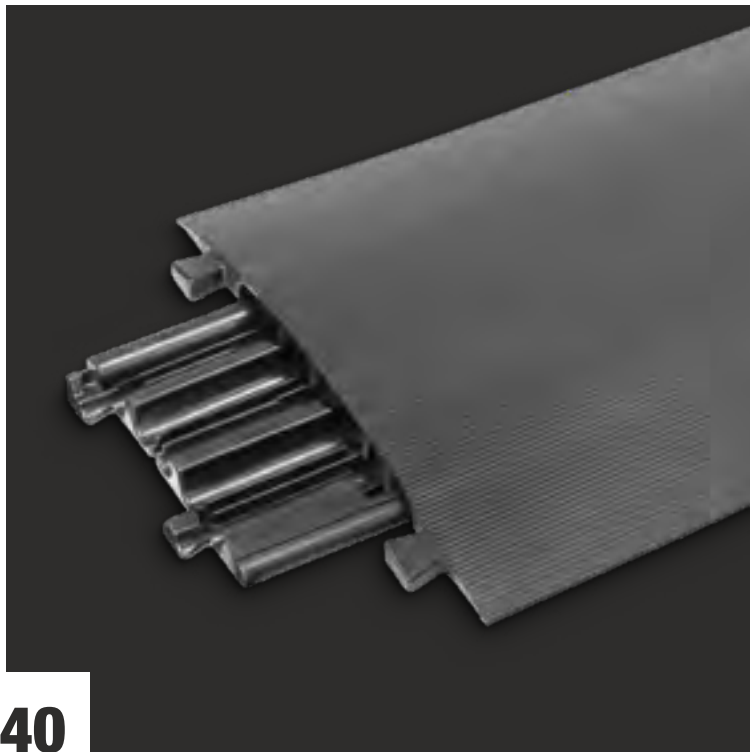
OPTIONAL COMPONENTS:

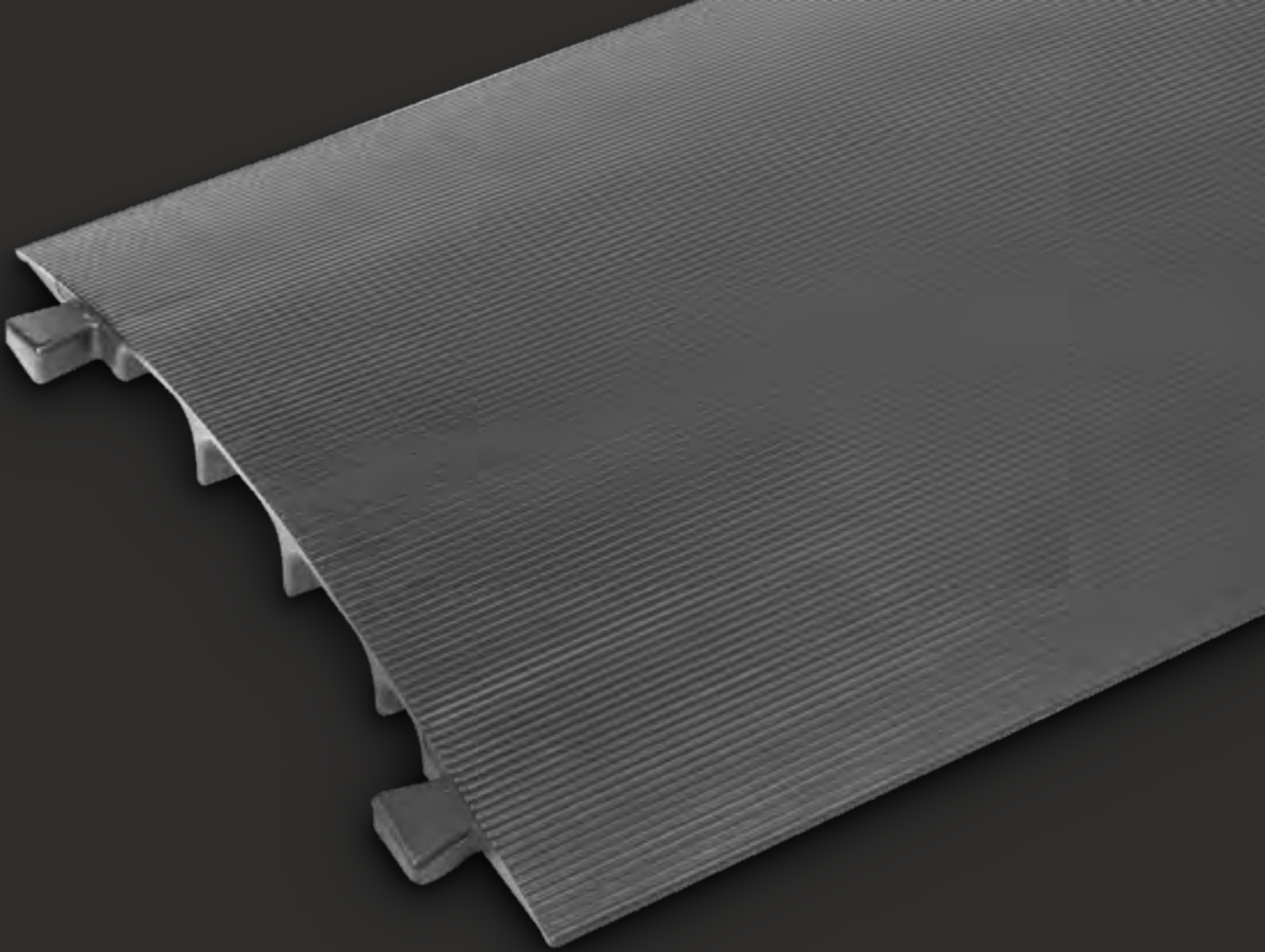
DEFENDER® COMPACT (drop-over)

Art. No.: **85100**

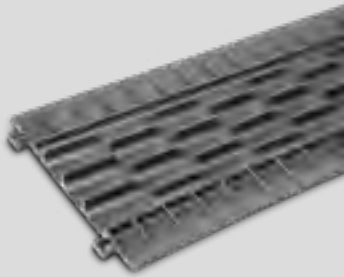
DEFENDER® COMPACT BASE

Art. No.: **85103**

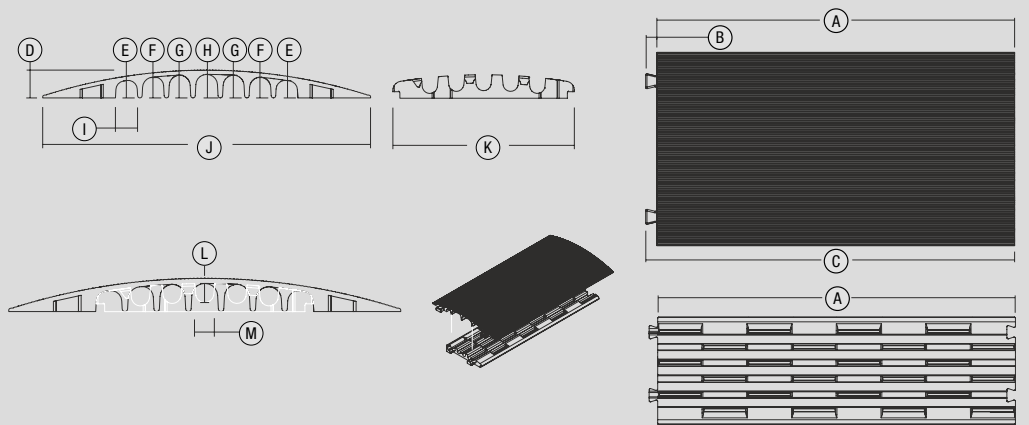
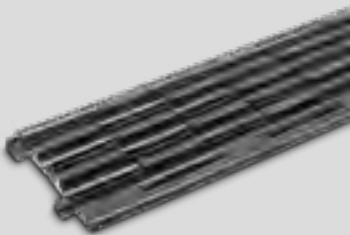




Art. No. **85100** (bottom view)



Art. No. **85103**



A	810 mm / 31.9"	H	30 mm / 1.1"
B	25 mm / 1.0"	I	28 mm / 1.1"
C	835 mm / 32.9"	J	410 mm / 16.1"
D	37 mm / 1.5"	K	232 mm / 9.14"
E	23 mm / 0.9"	L	21 mm / 0.9"
F	27 mm / 1.1"	M	22 mm / 0.9"
G	29 mm / 1.1"		

RANGE OF APPLICATION

Mainly in offices, halls, trade fairs, etc.



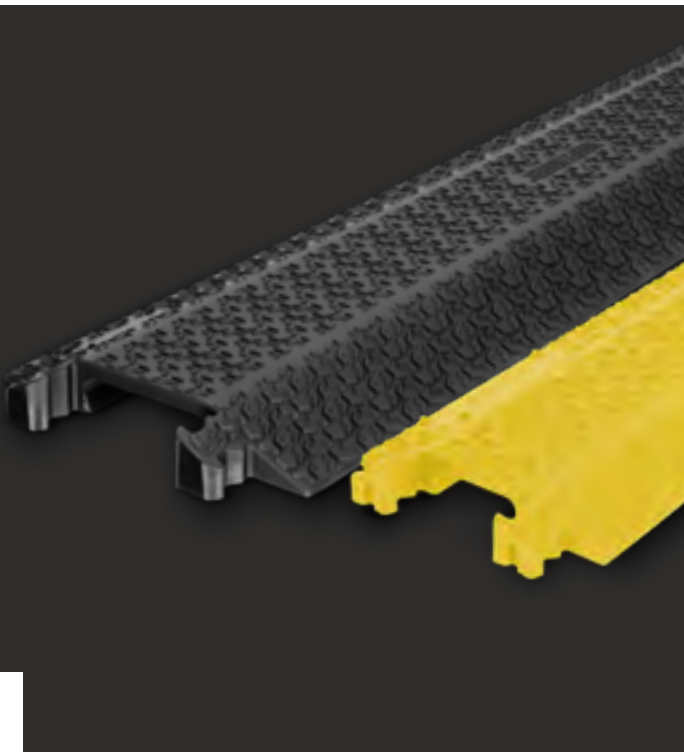
DEFENDER® XPRESS

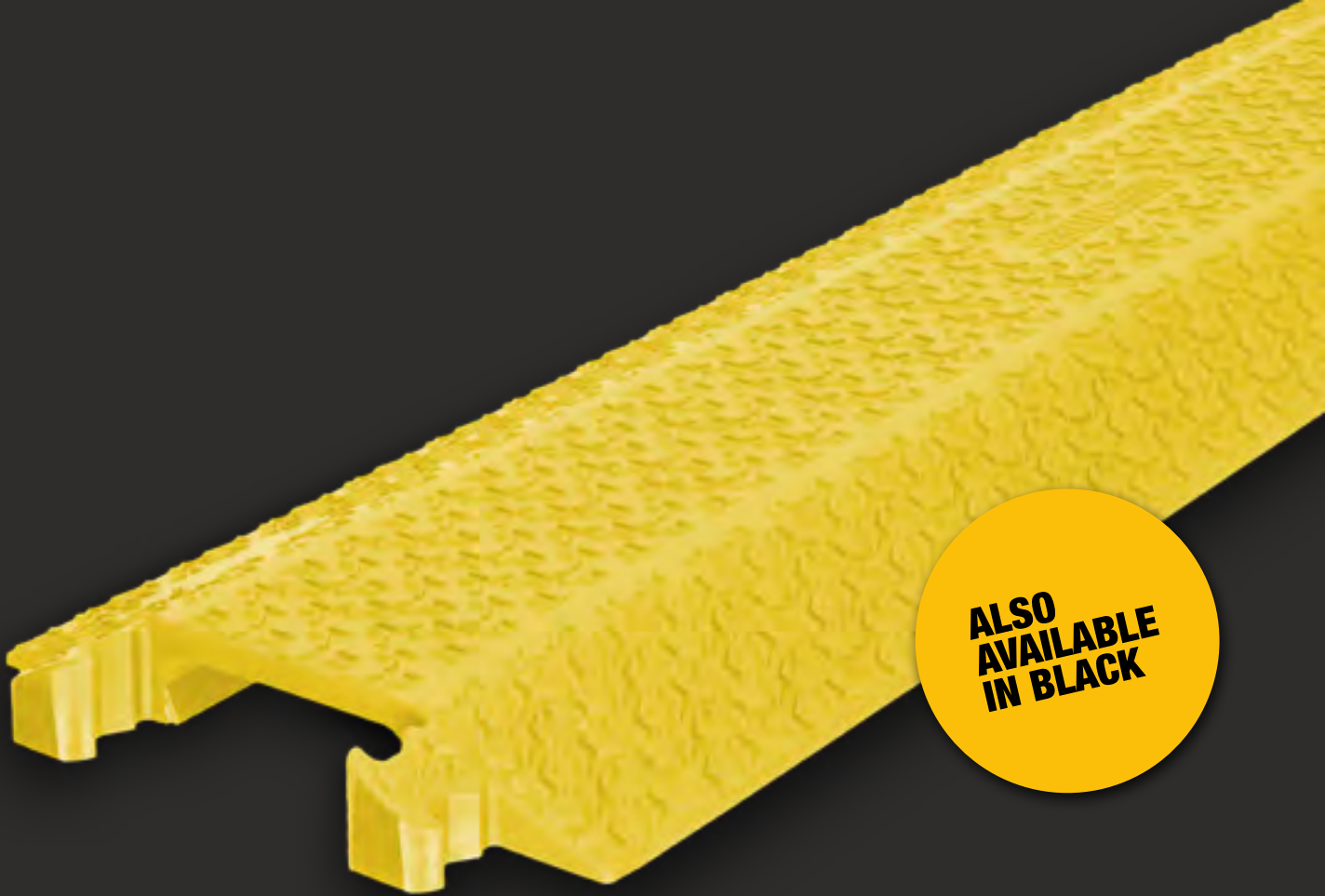
THE FASTEST SOLUTION FOR CABLE RUNS.

The XPRESS cable protector can be laid over cables and hoses that have themselves already been laid – this alone makes the laying job unbeatably fast. In addition, the lower weight – due to the lack of a base – also contributes to easier handling. The compact DEFENDER® XPRESS cable protector is ideal for indoor and outdoor use at the likes of exhibitions, trade fairs, shopping centres, stages, studios, offices, and more. With a load capacity of approx. 0.5 tonnes per 20 × 20 cm area, XPRESS cable protectors can support the weight of standard cars, trolleys, bicycles, wheelchairs, and pedestrians. Our 3D LaserGrip® surface features a special structure and a unique, innovative design that ensures slip and tread resistance. Extremely robust and unbreakable TPU material is responsible for the stability and durability of the XPRESS cable protector. In addition, the XPRESS series – like all DEFENDER® cable protection systems – is particularly user-friendly. The XPRESS series is available in black or yellow and 100% “made in Germany”.

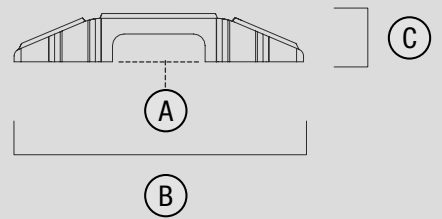
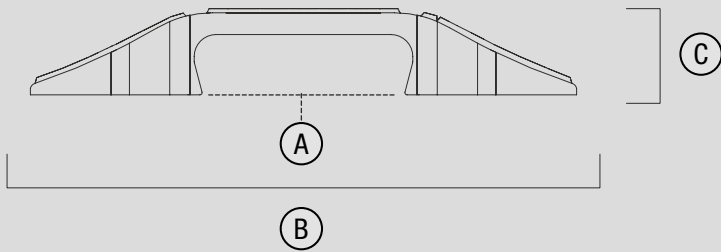
SPECIFICATIONS:

Item No.:	866XP100BLK, 866XP100YEL	866XP40BLK, 866XP40YEL
Product type	Cable crossover	Cable crossover
Type	Drop over 1 - channel	Drop over 1 - channel
Color	Black, Yellow	Black, Yellow
Material	Polyurethane	Polyurethane
Width channel	100 mm	40 mm
Height channel	30 mm	12 mm
Max load	Approx. 0.5 t on a surface area of 20 × 20 cm	Approx. 0.5 t on a surface area of 20 × 20 cm
Dimensions (L × W × H)	1005 mm × 250 mm × 40 mm	1005 mm × 125 mm × 20 mm
Chemical resistance	Oil-resistant, Petrol-resistant, Short-term contact with solvents	Oil-resistant, Petrol-resistant, Short-term contact with solvents
Hardness range	88 Shore ± 4 Shore	88 Shore ± 4 Shore
Fire protection class	B2	B2
Temperature range	- 30°C to 60°C	- 30°C to 60°C
Weight	4.2 kg	1.35 kg





**ALSO
AVAILABLE
IN BLACK**



100

A	100 × 30 mm / 3.94" × 1.2"
B	250 mm / 9.85"
C	40 mm / 1.6"

40

A	40 × 12 mm / 1.6" × 0.48"
B	125 mm / 4.92"
C	20 mm / 0.79"

RANGE OF APPLICATION

Mainly in offices, halls, trade fairs, etc.



DEFENDER® OFFICE

FOUR MINI CHANNELS – INDOOR & DESIGN SOLUTION

Available with a choice of black, grey and yellow colours, the DEFENDER® OFFICE cable protection system is the elegant solution for secure pedestrian traffic in conference facilities, exhibitions, public buildings, retail outlets, shopping centres, trade shows and offices. Featuring straight, 90° and end ramps with cutting guides for length adjustment, zigzag connection and bolt holes for ground fixing, the DEFENDER® OFFICE system provides versatile cable routing while preventing tripping hazards.

SPECIFICATIONS:

Art. No.:	85160 (black) / 85160GREY (grey) / 85160YEL (yellow)
Product:	Four-channel cable protector
Channel W × H:	10 × 10 mm / 0.4" × 0.4" (channels 1 and 4), 12 × 12 mm / 0.5" × 0.5" (channels 2 and 3)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	92 ± 4
Load capacity:	Kilogram (area 20 × 20 cm) 400 kg / 881.85 lb 1000 kg / 2204.62 lb
Fire classification:	Class E in accordance with DIN EN 13501-1
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30°C to +60°C / -22°F to 140°F
Length:	865 mm / 34.1"
Width:	125 mm / 4.9"
Height:	20 mm / 0.8"
Weight:	1.25 kg / 2.76 lb

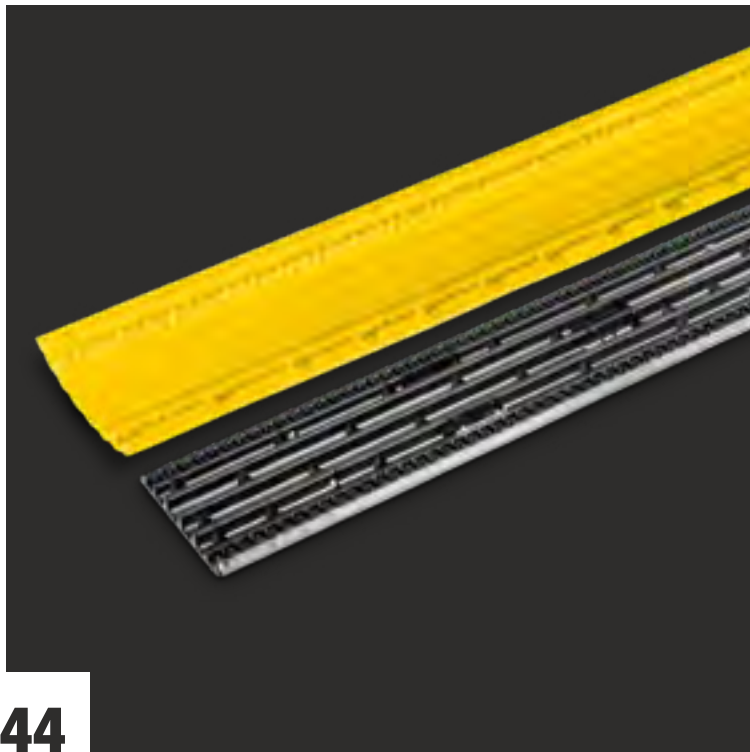
OPTIONAL COMPONENTS:

DEFENDER® OFFICE 90° CURVE

Art. No.: **85161** (black), **85161GREY**, **85161YEL**

DEFENDER® OFFICE END RAMP

Art. No.: **85168** (black), **85168GREY**, **85168YEL**

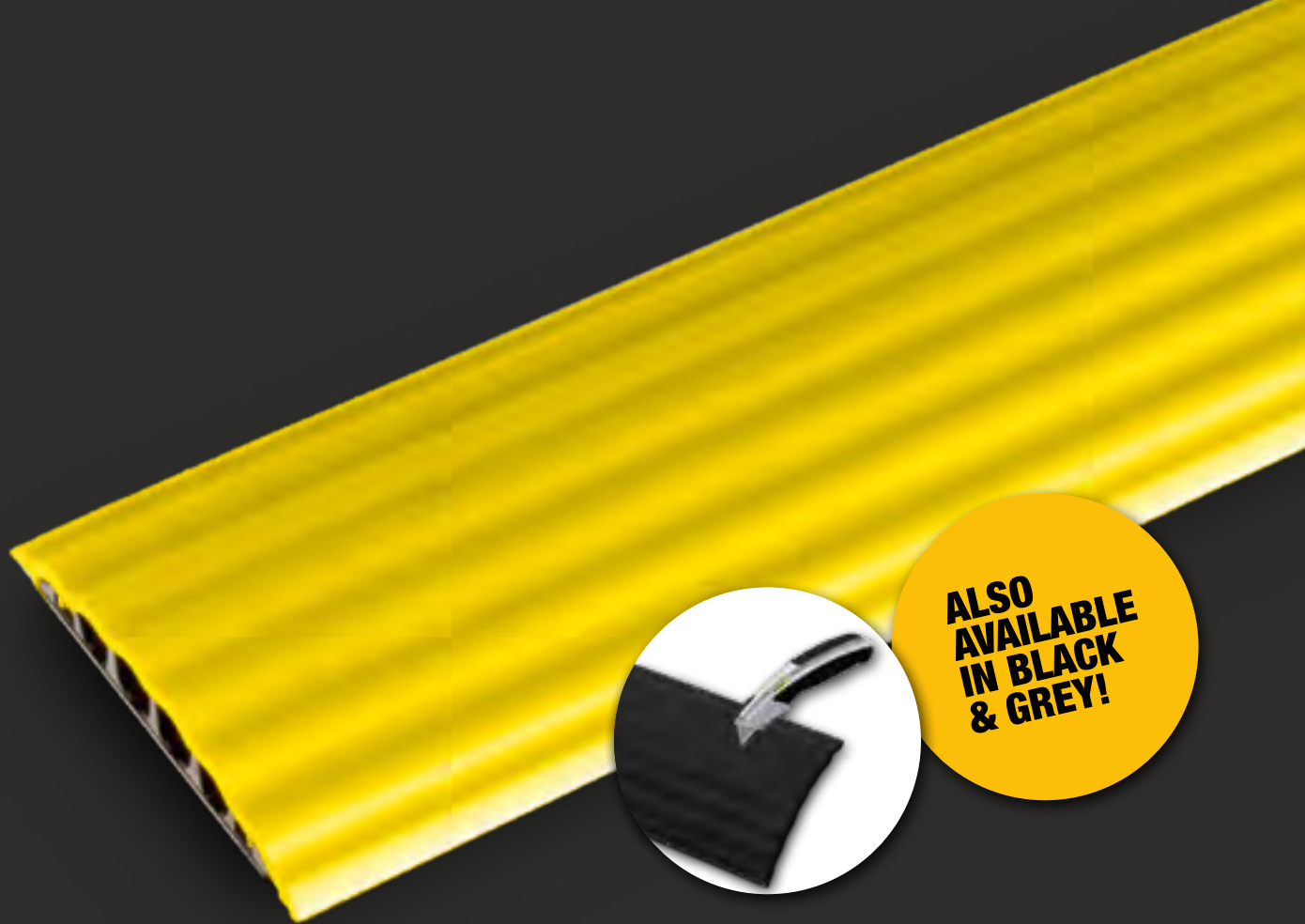


Available in:

Yellow – Art. No. **85160YEL**

Black – Art. No. **85160**

Grey – Art. No. **85160GREY**

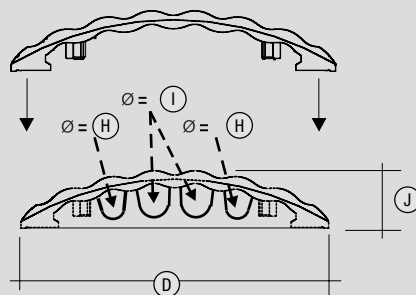
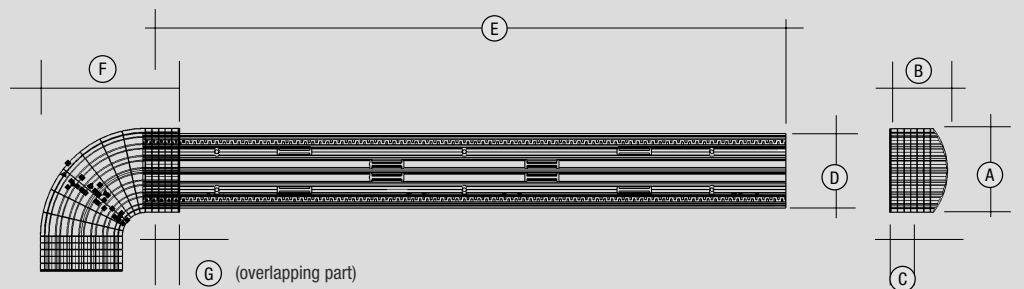
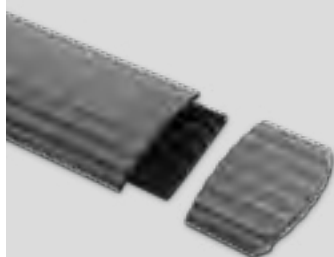


**ALSO
AVAILABLE
IN BLACK
& GREY!**

Art. No. **85161GREY**
(90° curve)



Art. No. **85161GREY**
(90° curve)



A	125 mm / 5.0"	F	210 mm / 8.3"
B	90 mm / 3.5"	G	50 mm / 2.0"
C	50 mm / 2.0"	H	10 mm / 0.4"
D	125 mm / 4.9"	I	12 mm / 0.5"
E	865 mm / 34.1"	J	20 mm / 0.8"

EXA VALUE TAPE®

DEFENDER®



THE TAPE THAT CAN HANDLE ANY TASK WITH ANY BUDGET

EXA-TAPE-VALUE

Multi-purpose, high-quality, great-value gaffer tape

If you want a tape that can do it all and do it well without breaking the bank, then it's got to be EXA-TAPE-VALUE. This heavy-duty gaffer tape has very strong adhesive properties so it gets stuck into the job with a quality and robustness you can rely on. Ideal for securing equipment, the tape is easily torn into small, no-thread strips and is effortlessly removable. EXA-TAPE-VALUE fits exactly onto the Ergo-Core (DTEXACORE) dispenser for convenient repeated taping.

SPECIFICATIONS

Item No.:	DTEXAVB50, DTEXAVS50, DTEXAVW50
Product type	Adhesive Tape
Type	EXA-Tapes
Carrier	PE lined synthetic fabric
Mesh	26
Total thickness	0.17 mm
Adhesion on steel	20 N / 25 mm
Tensile strength	74 – 82 N / 25 mm

Item No.:	DTEXAVB50, DTEXAVS50, DTEXAVW50
Adhesive	Synthetic rubber
Elongation at break	10 – 15 %
Temperature range	Up to 40 °C
Color	Black glossy, Silver glossy, White glossy
Width	50 mm
Length	50 m
Weight	0.414 kg



EXA-TAPE-VALUE B 50

Fabric tape, Black, glossy
50 mm × 50 m



EXA-TAPE-VALUE S 50

Fabric tape, Silver, glossy
50 mm × 50 m



EXA-TAPE-VALUE W 50

Fabric tape, White, glossy
50 mm × 50 m

DEFENDER® EXA-TAPE

RESIDUE-FREE REMOVAL

On the stage or for a video/photo shoot, gaffer tape pitches in as a full-fledged member of the team, but after the gig it tends to leave an unsightly, sticky mess behind. Those days are gone now that the DEFENDER® EXA-TAPE® is here. It was developed entirely with today's stage, audio/video and worksite needs in mind and can be peeled off without leaving any marks behind. As a high-quality cloth adhesive tape or – as the experts say – 'gaffer tape', EXA-TAPE® is used in professional applications. The hand-tearable tape can be easily and cleanly ripped off without any hanging threads. The secret to its success is spun rayon fabric. EXA-TAPE® is coated with a special natural rubber adhesive and sticks to nearly all surfaces. Residue-free removal is also possible despite the tape being very adhesive.

REUSABLE ERGO-CORE

The ERGO-Core comes in handy during frequent use. This dispenser works much like a ball bearing and allows tape to be applied smoothly. The ERGO-Core dispenser is made out of two interconnectable plastic parts for repeated use. It is simply inserted into the tape sleeve and is thus universally usable.



HIGH ADHESIVE STRENGTH



RESIDUE-FREE REMOVAL



CLEAN-TEAR TAPE STRUCTURE



UV-RESISTANT



REUSABLE ERGO-CORE INCLUDED



SUSTAINABLE & RECYCLABLE PACKAGING

ERGO-Core
Art. No. **DTEXACORE**

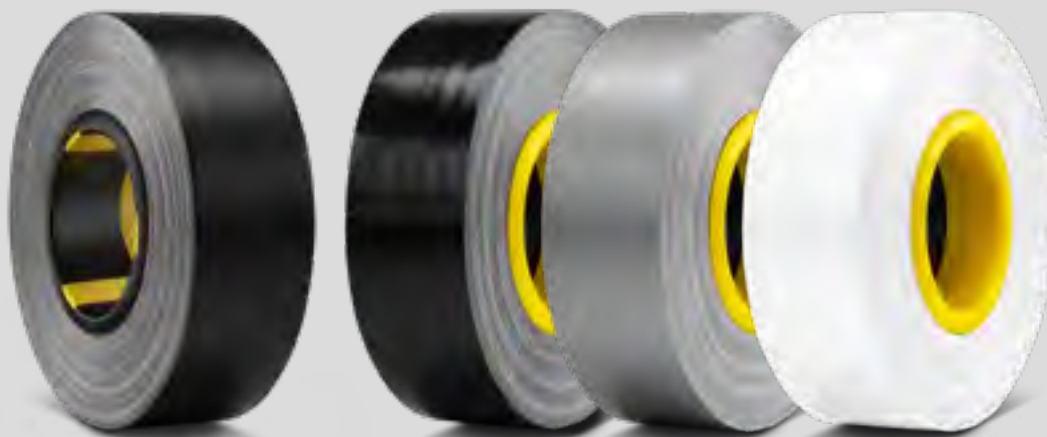


EXA-TAPE® with ERGO-Core
Black, matt
50 mm × 50 m
Art. No. **DTEXABM50**

EXA-TAPE® with ERGO-Core
Black, glossy
50 mm × 50 m
Art. No. **DTEXAB50**

EXA-TAPE® with ERGO-Core
Silver, glossy
50 mm × 50 m
Art. No. **DTEXAS50**

EXA-TAPE® with ERGO-Core
White, glossy
50 mm × 50 m
Art. No. **DTEXAW50**



DEFENDER® BOX MK2

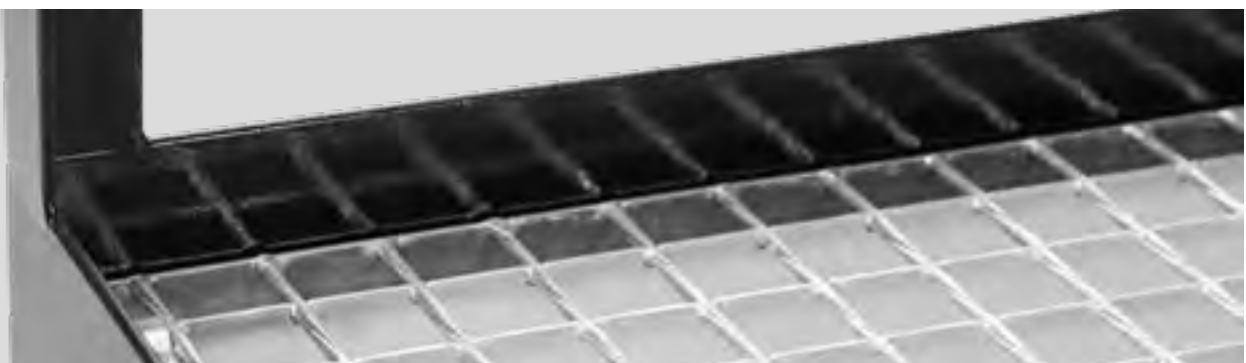
THE SMART TRANSPORT AND STORAGE SOLUTION

The DEFENDER® BOX MK2 is the ideal solution for transporting and storing DEFENDER® cable protectors. The sturdy box consists of a slim and stable welded steel construction in standard Euro pallet dimensions. Its floor is equipped with a galvanised steel grid, which makes it easy to clean cable protectors in the box. The removable strut at the front makes the box completely accessible – this facilitates fast and easy loading and unloading. The strut can also be practically stowed away in the floor area when not in use. The box is stackable and can be equipped with almost all DEFENDER® brand cable protectors.

SPECIFICATIONS:

Art. No.:	85BOX MK2
Product type:	Cable protector accessories
Type:	Transport boxes
Colour:	Black
Material:	Steel
Surface:	Powder-coated
Max. load capacity of the floor:	500 kg
Max. load of the frame:	650 kg
Stackable:	Max. 2 boxes on top of each other
Inner dimensions (L x H x D):	119 x 111 x 79 cm
Outer dimensions (L x H x D):	120 x 129 x 80 cm
Weight:	78 kg / 171.96 lb

Art. No. **85BOX2**





DEFENDER® REGISTER

Article No.	Model Name	Description	Page
85002	3	Cable protector three-channel	18
8690021ASET	3 2D ADAPTER SET	Module system – Adapter Set for connecting Middle Section/Ramp with DEFENDER® 3 Cable Protector (85002)	20
86900250	3 2D HV	Module system for wheelchair ramp and barrier-free transition – half Version	20
869002	3 2D M	Module system for wheelchair ramp and barrier-free transition – Middle Part	20
8690021	3 2D RAMP	Module system for wheelchair ramp and barrier-free transition – Ramp	20
85004	3 CONNECTOR PLUGS / DOVETAIL CONNECTOR	Connector plugs for 85002 cable protector three-channel	18
85009	3 CURVE	45° curve for 85002 cable protector three-channel	18
85008	3 END RAMP	End ramp for 85002 cable protector three-channel	20
85002LUX	3 LUX	Cable protector three-channel LUX	18
85BOX2	BOX MK2	Transport and storage box for cable protectors	48
85100	COMPACT	Cable protector seven-channel	40
85103	COMPACT BASE	Base for 85100 cable protector five-channel	40
DTEXACORE	EXA-TAPE® ERGO-CORE	REUSABLE ERGO-CORE	46
86100	MICRO 2	Cable Protector with two Channels	36
86100BLK	MICRO 2 BLACK	Cable Protector with two Channels black	36
86100LUX	MICRO 2 LUX	Cable Protector with two Channels LUX	36
85301	MIDI 4	Cable protector four-channel	29
85301BLK	MIDI 4 BLACK	Cable Protector four-channel black	29
85301LUX	MIDI 4 LUX	Cable protector four-channel LUX	29
85300	MIDI 5	Cable protector five-channel	28
869300	MIDI 5 2D	Midi 5 2D Module System for Barrier-free Access	30
869301ASET	MIDI 5 2D ADAPTER SET	Module system – Adapter Set for connecting Middle Section/Ramp with Midi Cable Protector (85300/301)	30
869300AEF	MIDI 5 2D ADAPTER/ENDPIECE FEMALE	Midi 5 modular system – adapter/end piece female for connection/termination of middle section/ Ramp with Midi cable protector (85300/301) or Midi 5 2D set	30
869300AEM	MIDI 5 2D ADAPTER/ENDPIECE MALE	Midi 5 modular system - adapter/end piece male for connecting/terminating the middle section/ramp with Midi cable protector (85300/301) or Midi 5 2D set	30
869300BLU	MIDI 5 2D BLU	Midi 5 2D module system for wheelchair ramp and wheelchair accessible transition – middle part blue lid	33
869350BLU	MIDI 5 2D BLU HV	Midi 5 2D Blu modular system for wheelchair accessible transition – half Version	30
869350	MIDI 5 2D HV	Module system for wheelchair ramp and barrier-free transition – half Version	32
869301	MIDI 5 2D R	Module system for wheelchair ramp and barrier-free transition	32
869301BLU	MIDI 5 2D R BLU	Midi 5 2D blue ramp – modular system for wheelchair accessible transition	33
869302	MIDI 5 2D RS	Short ramp for the MIDI 5 2D modular system	32
869300SETBLU	MIDI 5 2D SET BLU	COMPLETE SET MIDI 5 2D MODULAR SYSTEM	33
85300BLK	MIDI BLACK	Cable protector five-channel with black cap	38
85310	MIDI CURVE	45° curve for 85300 cable protector five-channel	42
85310BLK	MIDI CURVE BLACK	45° curve for 85300 cable protector five-channel with black cap	27
85308	MIDI END RAMP	End ramp for 85300 cable protector five-channel	27
85300LUX	MIDI LUX	Cable protector five-channel LUX	27
85200	MINI	Cable protector three-channel	34
85200BLK	MINI BLACK	Cable protector three-channel with black cap	34
85208F	MINI END RAMP FEMALE	End ramp female for 85200/85200BLK cable protector three-channel	35
85208M	MINI END RAMP MALE	End ramp male for 85200/85200BLK cable protector three-channel	35
85210L	MINI LEFT	45° curve left for 85200 cable protector three-channel	35
85200LUX	MINI LUX	Cable protector three-channel LUX	35

Article No.	Model Name	Description	Page
85210R	MINI RIGHT	45° curve right for 85200 cable protector three-channel	35
86100	MICRO 2	Compact cable protector	36
85150	NANO	Cable protector six-channel	38
85150BLK	NANO BLACK	Cable protector six-channel with black cap	38
85158F	NANO END RAMP FEMALE	End ramp female for 85150/85150BLK cable protector six-channel	38
85158M	NANO END RAMP MALE	End ramp male for 85150/85150BLK cable protector six-channel	38
85150LUX	NANO LUX	Cable protector six-channel LUX	38
85100	COMPACT	Drop-over cable protector	40
85160	OFFICE	Cable duct four-channel black	44
85161	OFFICE CURVE	90° curve for 85160 cable duct four-channel	44
85161GREY	OFFICE CURVE GREY	90° curve grey for 85160 cable duct four-channel	44
85161YEL	OFFICE CURVE YELLOW	90° curve yellow for 85160 cable duct four-channel	44
85168	OFFICE END RAMP	End ramp for 85160 cable duct four-channel	44
85168GREY	OFFICE END RAMP GREY	End ramp grey for 85160 cable crossover four-channel	44
85168YEL	OFFICE END RAMP YELLOW	End ramp yellow for 85160 cable crossover four-channel	44
85160GREY	OFFICE GREY	Cable duct four-channel grey	44
85160YEL	OFFICE YELLOW	Cable duct four-channel yellow	44
DTEXAB50	T EXA B 50	EXA-TAPE® with ERGO-Core Black Glossy, 50 mm x 50 m	46
DTEXABM50	T EXA BM 50	EXA-TAPE® with ERGO-Core Black Matt 50 mm x 50 m	46
DTEXAS50	T EXA S 50	EXA-TAPE® with ERGO-Core Silver Glossy, 50 mm x 50 m	46
DTEXAW50	T EXA W 50	EXA-TAPE® with ERGO-Core White Glossy, 50 mm x 50 m	46
85600	ULTRA L	Cable protector two-channel	12
85601	ULTRA L 2	Cable protector two + four-channel	14
85601LUX	ULTRA L 2 LUX	Cable protector two + four-channel LUX	14
85600LUX	ULTRA L LUX	Cable protector two-channel LUX	12
85500	XXL	Cable protector five-channel	16
85510	XXL END RAMP	End ramp for 85500 cable protector five-channel	16
85500LUX	XXL LUX	Cable protector five-channel LUX	16

Important

Slight discolouration of material and metallic sheen result from the halogen-free flame retardant additives and the recycled materials. They cannot be considered as a defect.

DEFENDER[®]

CABLE PROTECTION SYSTEMS

defender-protects.com

The information contained in this publication, including numerical data, has been prepared as a general guide to the products, but intending buyers and users must satisfy themselves as to the suitability and the safety of the products for their particular purposes and duties. No responsibility is assumed for any errors herein. The company reserves the right to alter the designs and material specifications of products shown in this publication without notice.

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