



**PROTECT
YOUR WORLD!**

DEFENDER[®]
CABLE PROTECTION SYSTEMS

PRODUCT CATALOG

BELTRONICA

 **MADE IN GERMANY**



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. DEFENDER® cable protection systems carry the DEKRA label in accordance with the DIN 31000 and EN 61537 standards. TÜV type certification is also available for selected models. They meet the requirements of fire protection class E in accordance with DIN EN 13501-1 (B-s1 pending).

More details about DEFENDER® cable protectors is 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 als Schutz von Stromkabeln und zur Vermeidung von Stolperfallen bei Rockkonzerten gedacht, haben sich die DEFENDER® Kabelschutz-Systeme 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 anspruchsvollen Spezifikationen und höchste Qualitätsstandards erfüllen. Die DEFENDER® Kabelschutzsysteme sind nach DIN 31000 und EN 61537 mit dem DEKRA Siegel ausgezeichnet. Für ausgewählte Modelle ist auch eine TÜV Bauart Zertifizierung vorhanden. Sie erfüllen die Anforderungen der Brandschutzklasse E nach DIN EN 13501-1 (B-s1 ausstehend).

Weitere Informationen über die DEFENDER® Kabelbrücken sind unter www.defender-protects.com in den Sprachen Englisch, Französisch, Deutsch und Spanisch verfügbar. Bei Fragen stehen Ihnen die Kabelschutzexperten von DEFENDER® gerne zur Verfügung.

ES: PASACABLES DEFENDER®

Desarrollados en principio para proteger los cables eléctricos y evitar tropiezos en conciertos de rock, los protectores de cables DEFENDER® se han convertido en artículos habituales en una amplia variedad de usos industriales, comerciales y públicos. 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 altas normas de calidad. Las rampas para cables DEFENDER® cuentan con el certificado DEKRA conforme a la DIN 31000 y EN 61537, presentan la clase de inflamabilidad B2 según la DIN 4102 (también disponible en B1) y cumplen la directiva sobre bajo voltaje. Para modelos seleccionados, también se dispone de una certificación TÜV relativa al tipo de construcción. Cumplen los requisitos de la clase de protección contra incendios E de acuerdo con la norma DIN EN 13501-1 (B-s1 pendiente).

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

FR: PASSAGES DE CÂBLES DEFENDER®

Initialement conçu pour protéger les câbles électriques et éviter le trébuchement pendant les concerts de rock, les systèmes de protection des câbles de 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 fabriqués 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 soumis les matières premières et la production garantissent la conformité des passages de câbles DEFENDER® aux spécifications et aux normes de qualité les plus exigeantes. Les passages de câbles DEFENDER® sont certifiés conformes aux normes DIN 31000 et EN 61537 par DEKRA. Une certification de type délivrée par le TÜV est également disponible pour certains modèles. Ceux-ci répondent aux exigences de la classe de protection incendie E selon DIN EN 13501-1 (B-s1 en cours).

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 give a high value to sustainability, 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 in 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, cable protectors are reprocessed into new granulate and the whole is repeated.





PVC-FREE

DEFENDER® products contain no environmentally harmful PVC.



STRONG ARGUMENTS



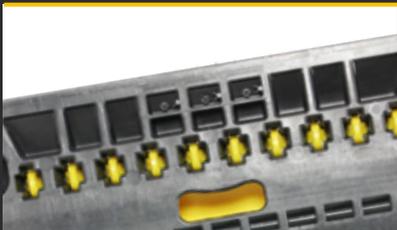
DEKRA AND TÜV CERTIFIED

The DEFENDER® cable protection range has been awarded the DEKRA certificate. In accordance with testing standards DIN EN 61537:2007 and DIN31000:2011, all of the DEFENDER® cable crossovers adhere to the highest safety and quality requirements. Thanks to the manufacturing process being completed in Germany, Adam Hall GmbH, exclusive distributor of DEFENDER® products, is able to ensure that as part of the certification process, DEKRA can complete the required material and production checks on a regular basis. TÜV certification is also available for selected types.



HIGH TECH RAW MATERIAL

All DEFENDER® cable crossovers 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° C [-22° F to 140° F]. The Shore A hardness range is 88 ± 4.



PATENTED SELF-CLEANING HINGE

Our cable protectors are equipped with patented 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 crossovers can be easily cleaned by 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.





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).



MODULAR SYSTEM

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.



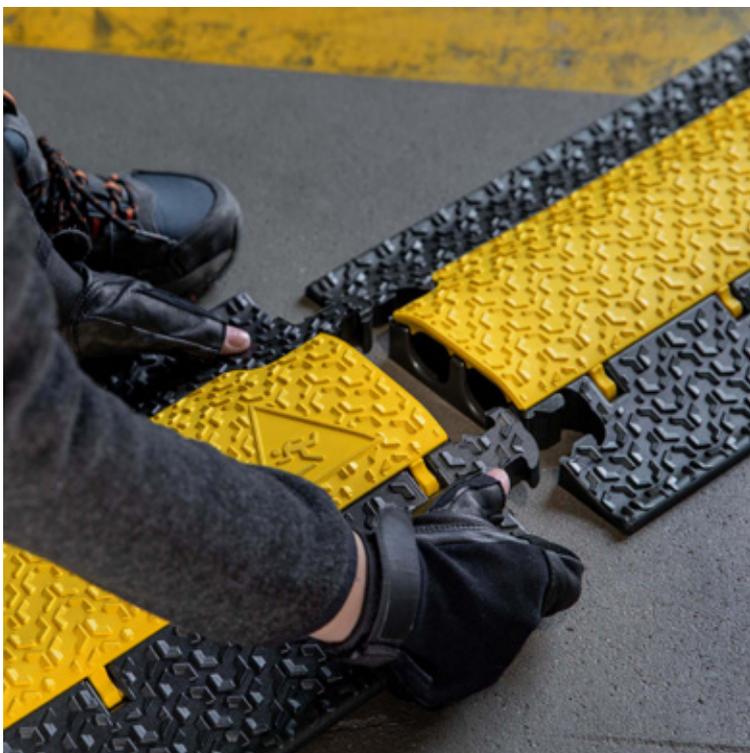
LABEL YOUR CABLE PROTECTORS

Self branding of your cable protectors has three main advantages: Advertisement for your brand / Corporate identity conformity / Avoid 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



FIVE-YEAR GUARANTEE

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



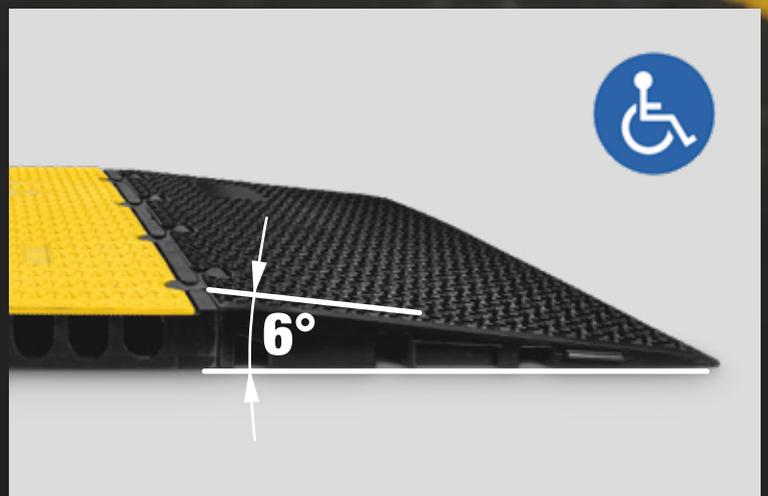
NO BARRIERS WHATSOEVER

NEW!

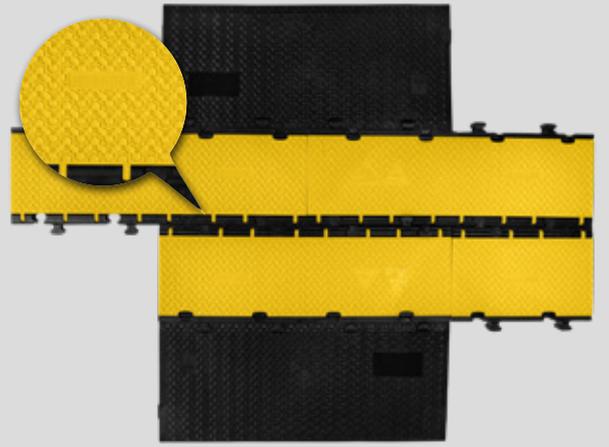
DEFENDER® MIDI 5 2D

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

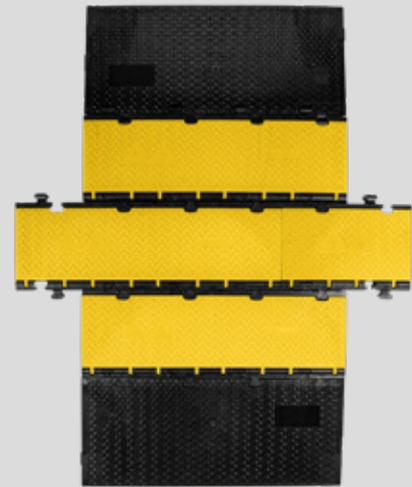
Accessibility is a fundamental requirement everywhere these days, and especially at events. That's why the modular DEFENDER® 2D M cable protector exists, with an incredible 6° slope ramp, which can be extended both width and length wise, without restriction. Flexible, robust, unlimited and TÜV Type tested / Production monitored.



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



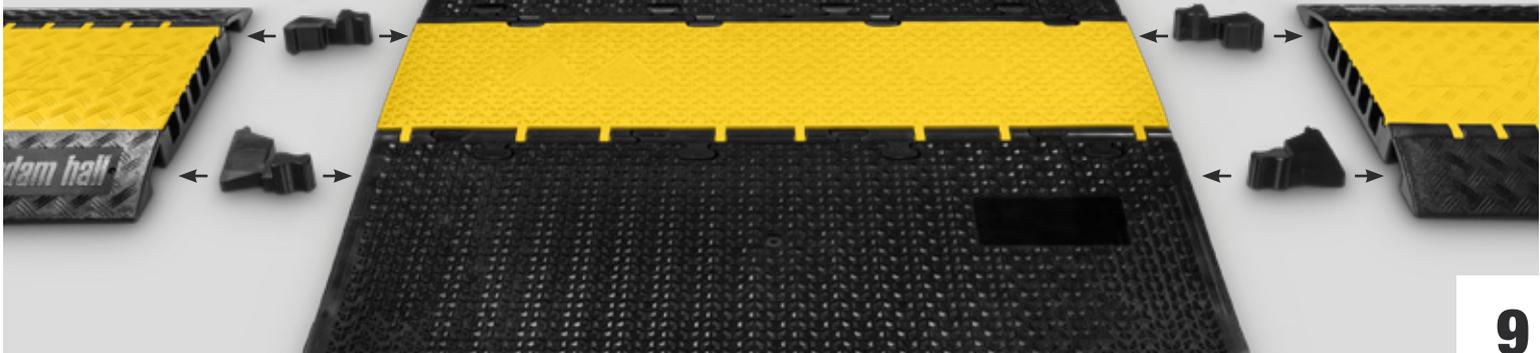
HEAVY-DUTY RAMP WITH 3-D LASERGRIP ANTI-SLIP SURFACE
MADE OUT OF BLACK, RECYCLED POLYURETHANE

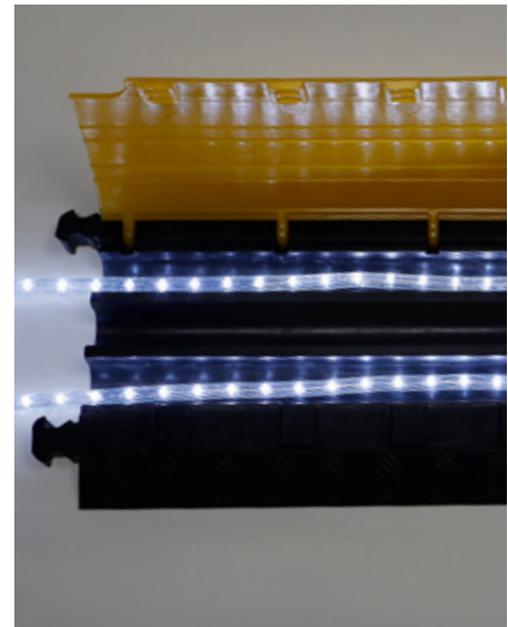
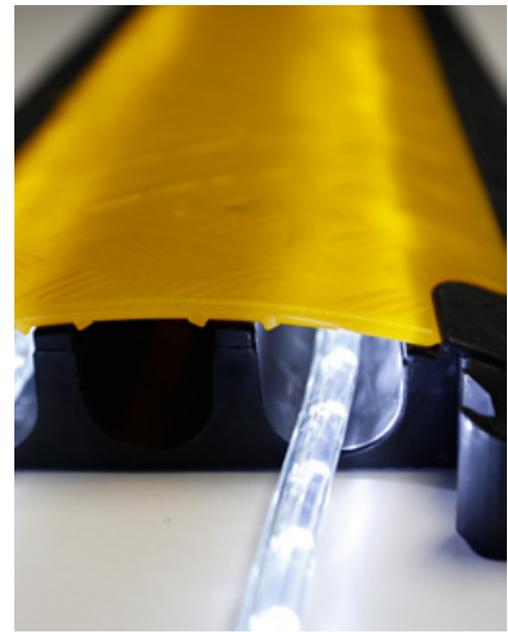


PATENTED SELF-CLEANING SYSTEM AND LID HINGE



ADAPTER SET CONSISTING OF 4 ADAPTERS TO CONNECT EASY
THE MIDI 5 MODULE SYSTEM WITH DEFENDER® MIDI CABLE PROTECTORS





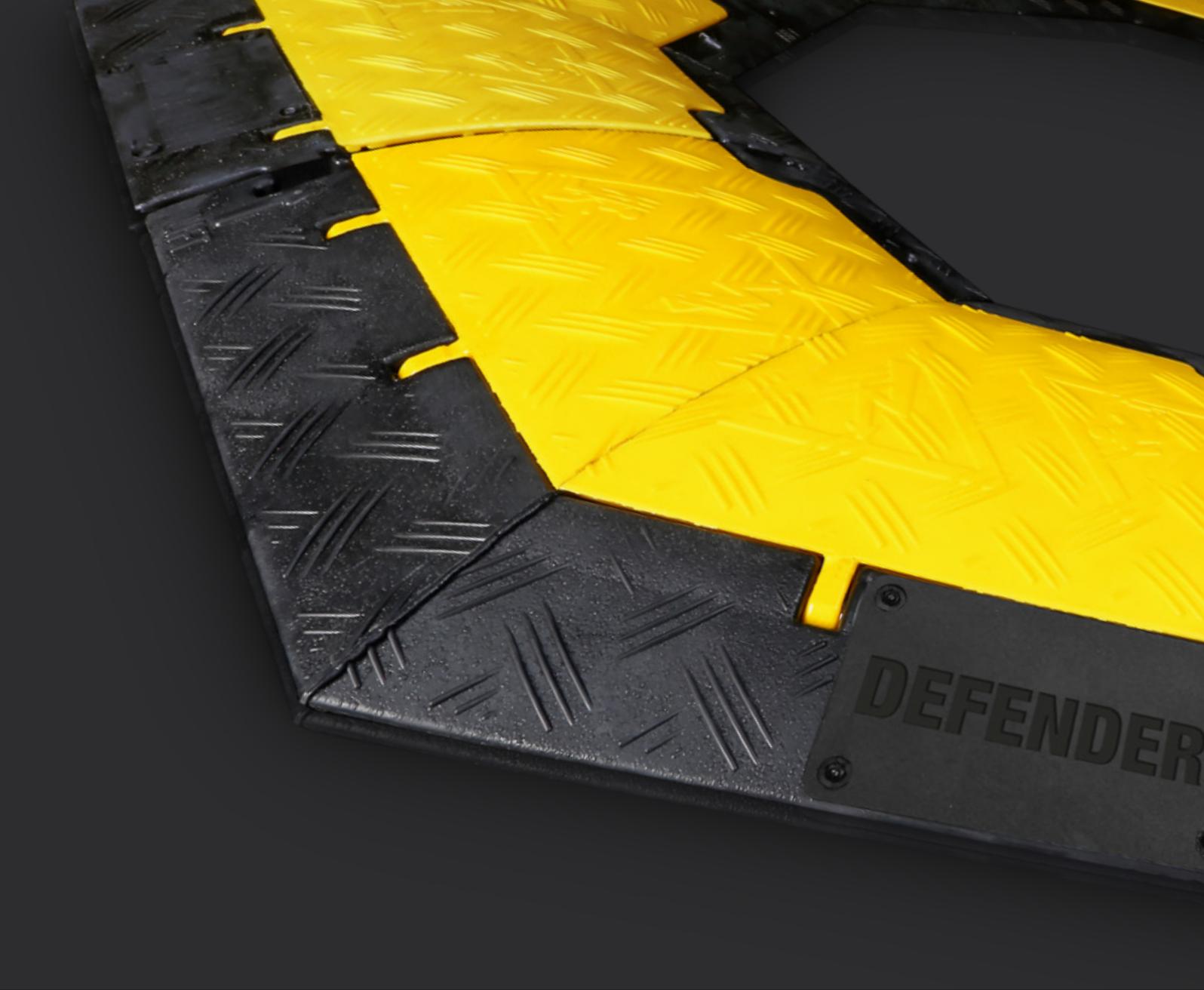
DEFENDER® LUX

SEMI-TRANSPARENT LID SERIES

The ultimate in cable protection and trip hazard prevention, our innovative DEFENDER® LUX SERIES feature highly translucent, yellow-tinted lids for running LED rope lights along your cables and cords. Developed in conjunction with major venues and event organizers, DEFENDER® LUX Cable Protectors are the state-of-the-art indoor and outdoor solution to ensure maximum visibility and security in the dark. DEFENDER® LED rope lights are also available as dedicated accessories. See our price list for the DEFENDER® LUX and rope light range, 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 customized to your requirements. What's more, at DEFENDER® engineering and tooling, we develop and produce special purpose, injection-molded protection solutions like those below. Talk to your DEFENDER® representative for more information and minimum orders.



CUSTOM SOLUTION DEVELOPMENT



DEFENDER® subterra

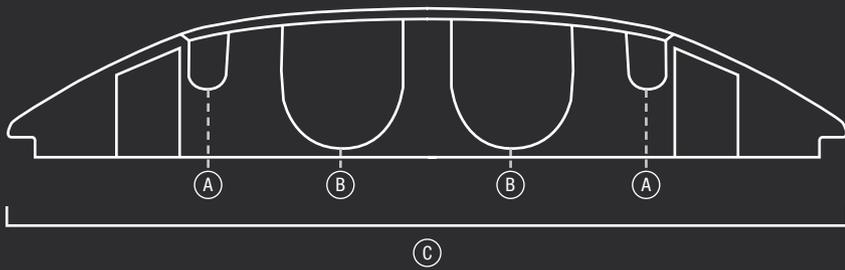
Developed with and produced for Halliburton Oil Field Services, the Subterra is a protection system for underground hydraulic lines. It combines thermoplastic polyurethane and reinforced polyamide materials to withstand earth pressure and truly demonstrates the scope of DEFENDER's purpose design and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



DEFENDER® race result

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

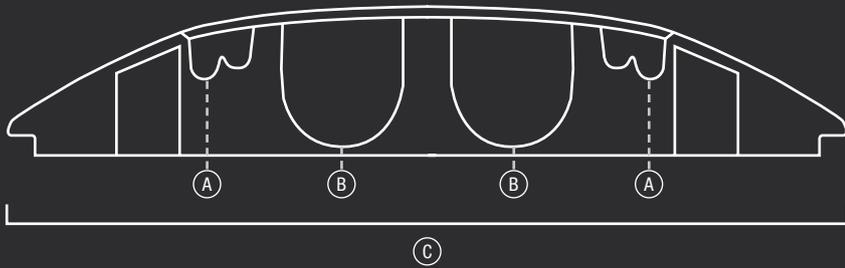
DEFENDER® RANGE OVERVIEW (IN PROPORTIONAL SCALE)



DEFENDER® ULTRA L

TWO ULTRA LARGE CHANNELS – THE HEAVY-DUTY GIANT

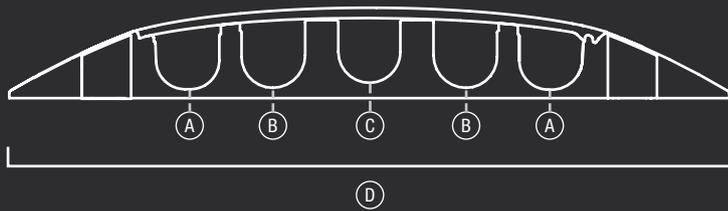
A	33 x 50 mm / 1.3" x 2.0"
B	113 x 120 mm / 4.5" x 4.7"
C	765 mm / 30.12"



DEFENDER® ULTRA L 2

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

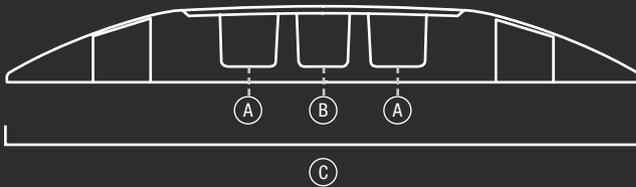
A	25 mm (2x) / 1.0"
B	108 x 110 mm / 4.2" x 4.3"
C	765 mm / 30.12"



DEFENDER® XXL

FIVE XXL CHANNELS – THE HEAVY-DUTY ALL-ROUNDER

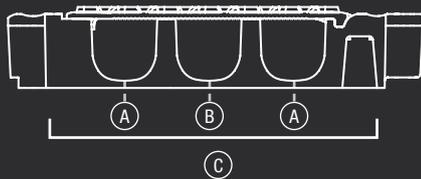
A	61 x 59 mm / 2.4" x 2.3"
B	62 x 65 mm / 2.4" x 2.6"
C	60 x 63 mm / 2.4" x 2.5"
D	696 mm / 27.4"



DEFENDER® 3

THREE BIG CHANNELS – MOST POPULAR

A	52 x 49 mm / 2.1" x 2.0"
B	45 x 50 mm / 1.8" x 2.0"
C	605 mm / 23.82"



DEFENDER® 3 2D

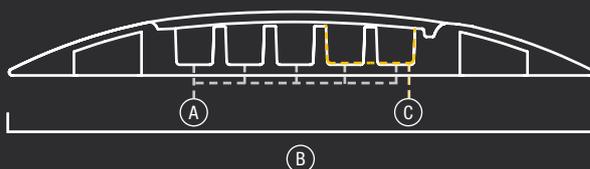
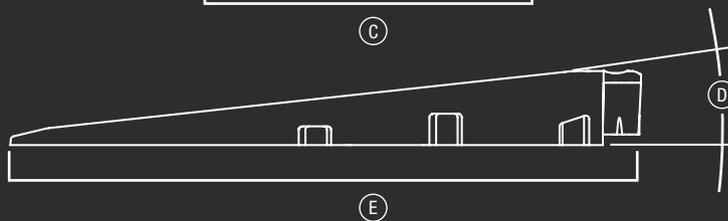
DEFENDER® 3 2D MODULAR SYSTEM FOR WHEELCHAIR RAMP AND BARRIER-FREE TRANSITION

MIDDLE PART

A	52 x 49 mm / 2.1" x 2.0"
B	45 x 50 mm / 1.8" x 2.0"
C	395 mm / 15.6"

RAMP

D	6°
E	600 mm / 23.6"



DEFENDER® MIDI 5 AND MIDI 4C

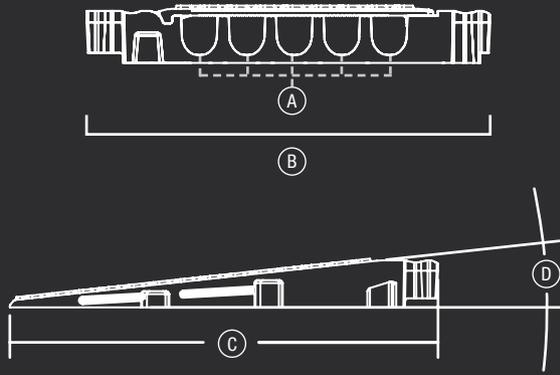
FIVE MEDIUM CHANNELS OR THREE MEDIUM-SIZED CABLE CHANNELS AND ONE LARGE CHANNEL FOR FIRE HOSES

MIDI

A	34 x 36 mm / 1.3" x 1.4"
B	538 mm / 21.18"

MIDI 4C

C	600 mm / 23.6"
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DEFENDER® MIDI 5 2D

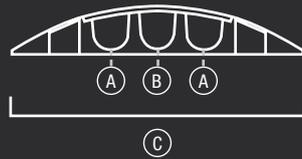
MIDI 5 2D MODULE SYSTEM FOR WHEELCHAIR RAMP AND BARRIER-FREE TRANSITION

MIDDLE PART

A	35 x 38 mm / 1.4" x 1.5"
B	325 mm / 12.8"

RAMP

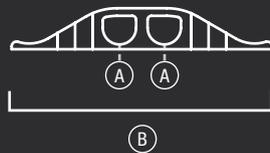
C	430 mm / 16.9"
D	6°



DEFENDER® MINI

THREE SMALL CHANNELS – THE LIGHTWEIGHT CHAMPION

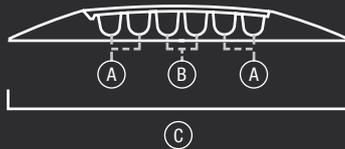
A	35 x 30 mm / 1.4" x 1.2"
B	35 x 35 mm / 1.4" x 1.4"
C	290 mm / 11.42"



DEFENDER® MICRO 2

CABLE PROTECTOR WITH 2 CHANNELS

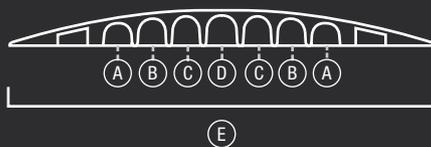
A	35 x 35 mm / 1.4" x 1.4"
B	273 mm / 10.7"



DEFENDER® NANO

SIX SLIM CHANNELS – DISCRETE OUTDOOR / INDOOR PROTECTION

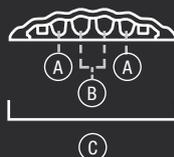
A	17 x 18 mm / 0.7" x 0.7"
B	17 x 19 mm / 0.7" x 0.7"
C	285 mm / 11.22"



DEFENDER® COMPACT

SEVEN SMALL CHANNELS – THE DROP-OVER SOLUTION

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



DEFENDER® OFFICE

FOUR MINI CHANNELS – INDOOR & DESIGN SOLUTION

A	10 x 10 mm / 0.4" x 0.4"
B	12 x 12 mm / 0.5" x 0.5"
C	125 mm / 4.82"

RANGE OF APPLICATION

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

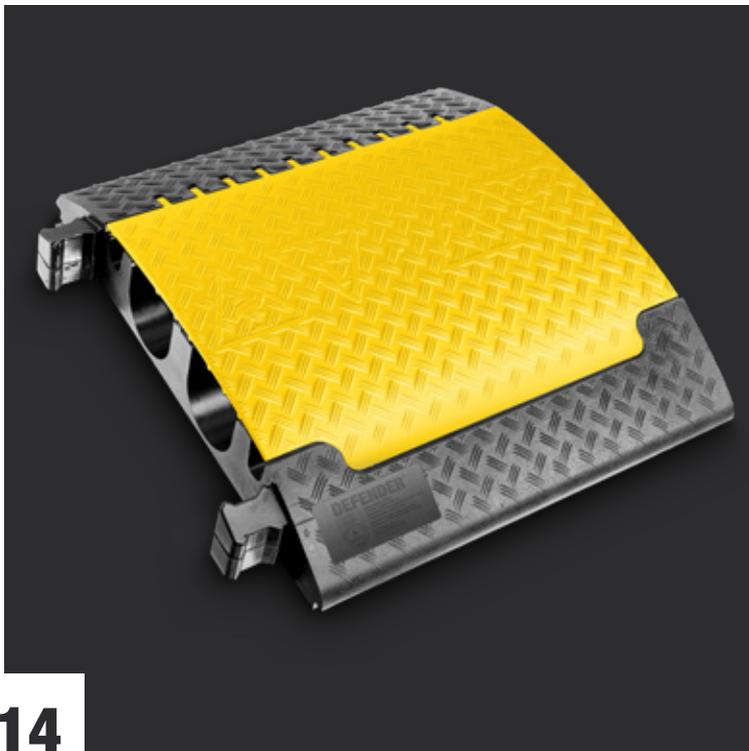
DEFENDER® ULTRA L

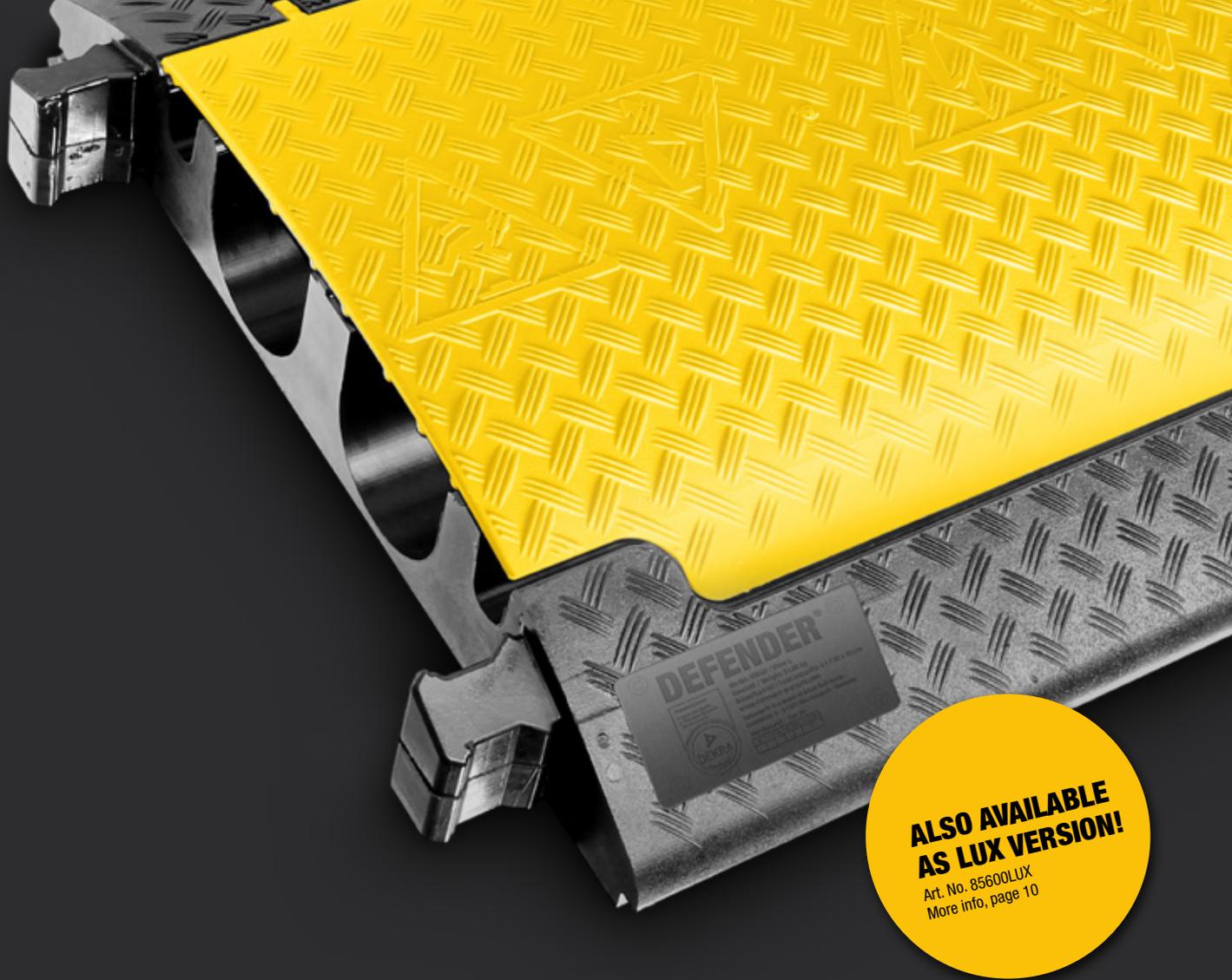
TWO ULTRA LARGE CHANNELS – THE HEAVY-DUTY GIANT

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 x 113 mm / 4.7" x 4.5" channels flanked by two 33 x 50 mm / 1.3" x 2.0" ducts, integrated dog bone connectors for easy linking and a 5.0 ton/11,023 lbs. per 20 x 20 cm / 7.9" x 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:

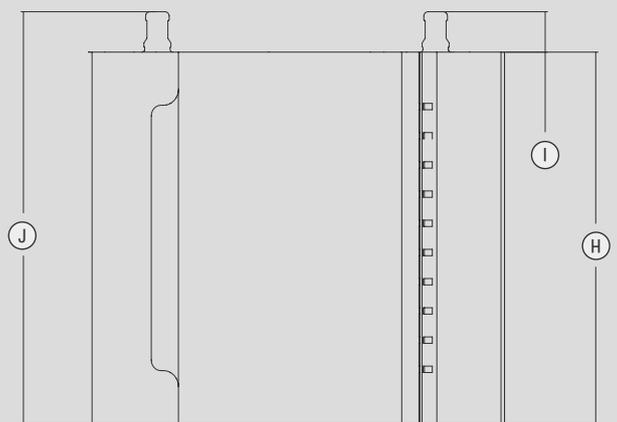
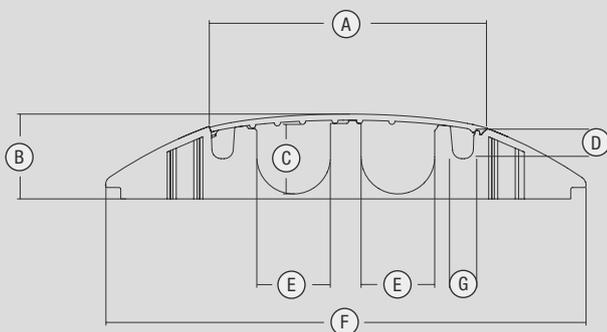
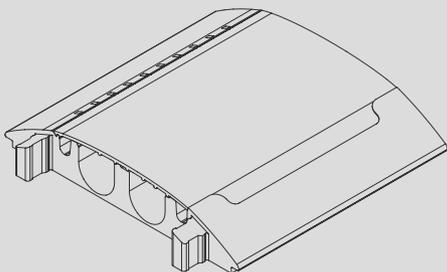
Art. No.:	85600
Product:	Four-channel cable protector
Channel W x H:	33 x 50 mm / 1.3" x 2.0" (channels 1 and 4), 120 x 113 mm / 4.7" x 4.5" (channels 2 and 3)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton/11,023 lbs. / 20 x 20 cm / 7.9" x 7.9" (typical tire footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° to +60° C / -22° F to 140° F
Length:	700 mm / 27.6"
Width:	765 mm / 30.1"
Height:	140 mm / 5.5"
Weight:	32 kg / 70.5 lbs.





**ALSO AVAILABLE
AS LUX VERSION!**

Art. No. 85600LUX
More info, page 10



A	452 mm / 17.8"	F	765 mm / 30.1"
B	140 mm / 5.5"	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 centers / events / department stores / construction sites, streets, etc.

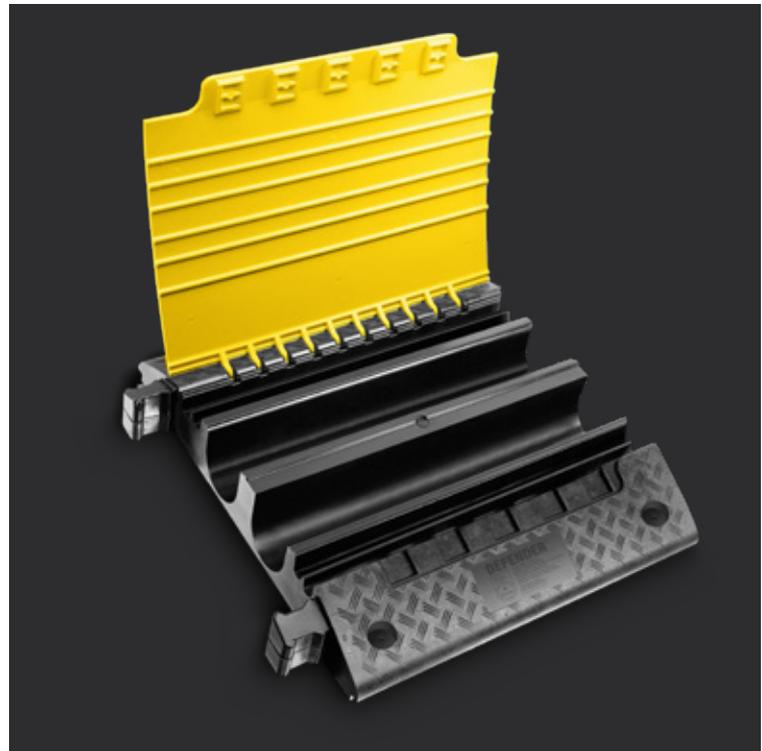
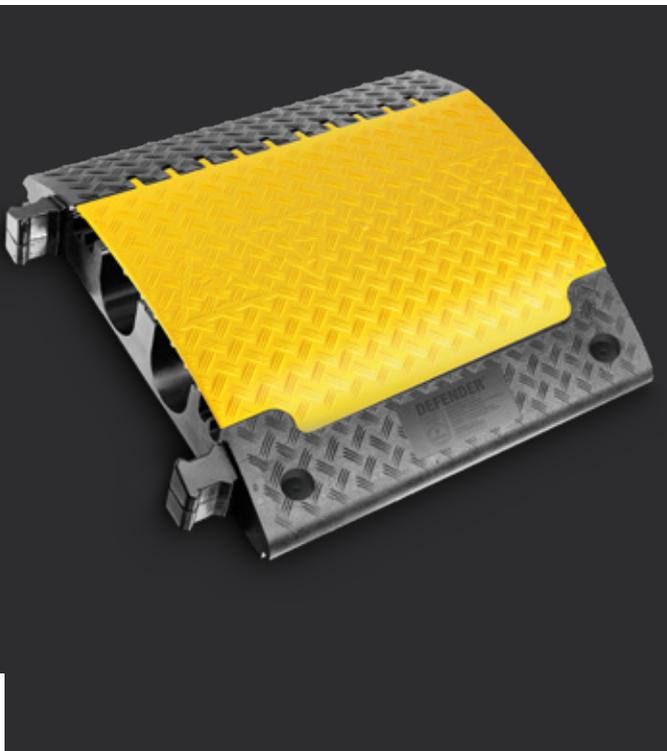
DEFENDER® ULTRA L 2

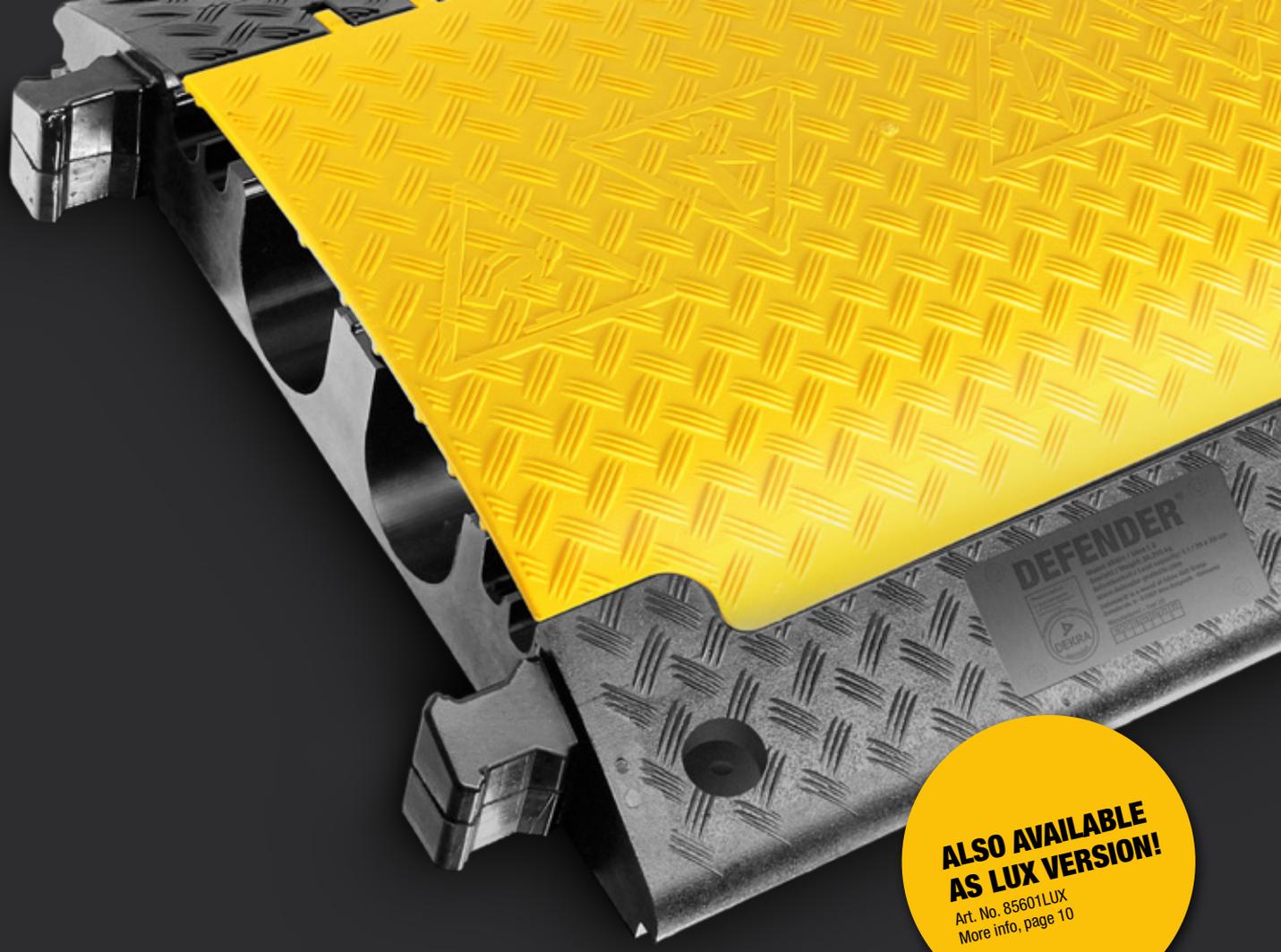
TWO ULTRA LARGE CHANNELS (2+4) – THE HEAVY-DUTY GIANT

Ultra L 2 – heavy-duty cable crossovers are designed for the most demanding applications and feature two extra large cable channels of 108 x 110 mm / 4.2" x 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 lbs. on a 20 x 20 cm / 7.9" x 7.9" 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 fixation holes (ø 15 mm / 0.6") for street installation.

SPECIFICATIONS:

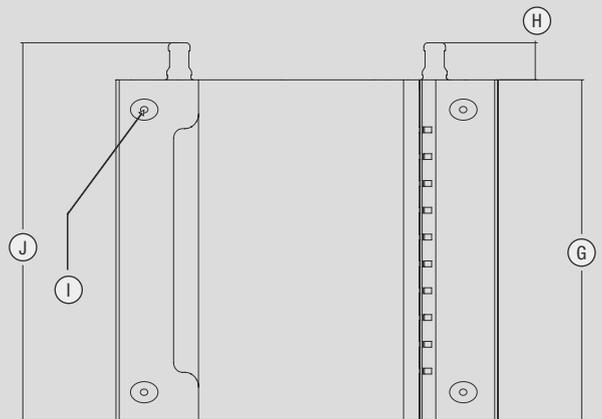
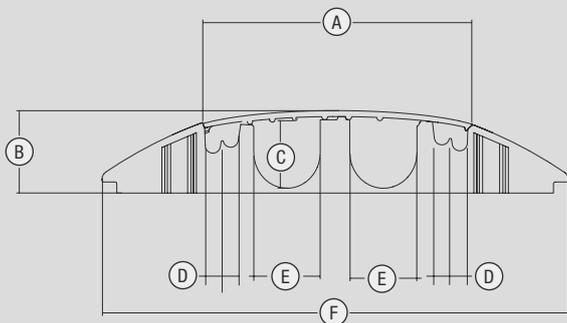
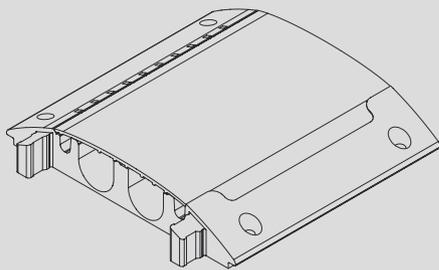
Art. No.:	85601
Product:	2+4-channel cable protector
Channel W x H:	Diameter channel 1+2: 25 mm / 1.0" / Diameter channel 5+6: 25 mm / 1.0" Channel 3: 108 x 110 mm / 4.2" x 4.3" / Channel 4: 108 x 110 mm / 4.2" x 4.3"
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 tons/11,023 lbs. / 20 x 20 cm / 7.9" x 7.9" (typical tire footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° to +60° C / -22° F to 140° F
Length:	705 mm / 27.8"
Width:	765 mm / 30.1"
Height:	120 mm / 4.7"
Weight:	27.5 kg / 60.6 lbs.





**ALSO AVAILABLE
AS LUX VERSION!**

Art. No. 85601LUX
More info, page 10



A	452 mm / 17.8"	F	765 mm / 30.1"
B	120 mm / 4.7"	G	705 mm / 27.8"
C	110 mm / 4.3"	H	76 mm / 3.0"
D	2.0 x 25 mm / 1.0"	I	ø 15 mm / 0.6"
E	108 mm / 4.2"	J	776 mm / 30.6"

RANGE OF APPLICATION

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

DEFENDER® XXL

FIVE XXL CHANNELS – THE HEAVY-DUTY ALLROUNDER

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 lbs. per 20 x 20 cm / 7.9" x 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.

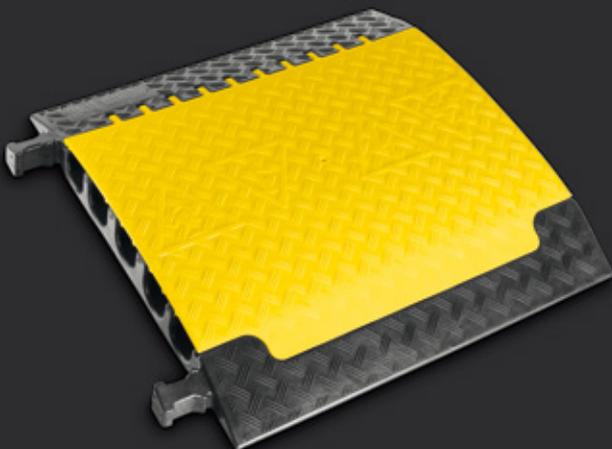
SPECIFICATIONS:

Art. No.:	85500
Product:	Five-channel cable protector
Channel W x H:	61 x 59 mm / 2.4" x 2.3" (channels 1 and 5), 62 x 65 mm / 2.4" x 2.6" (channels 2 and 4), 60 x 63 mm / 2.4" x 2.5" (channel 3)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton/11,023 lbs. / 20 x 20 cm / 7.9" x 7.9" (typical tire footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° 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 kg / 46.3 lbs.

OPTIONAL COMPONENTS:

DEFENDER® XXL End Ramp, connectors included

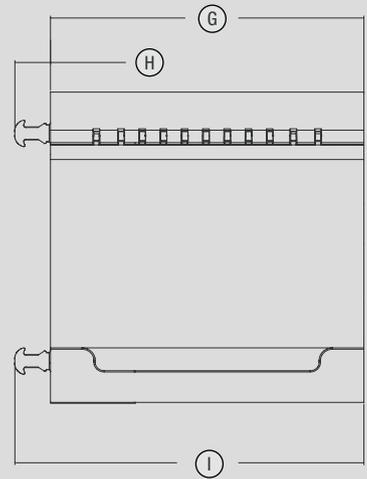
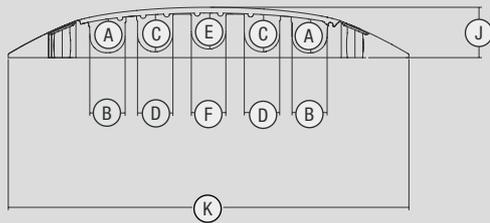
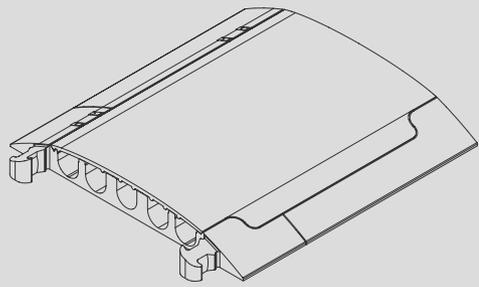
Art. No.: **85510**





**ALSO AVAILABLE
AS LUX VERSION!**
Art. No. 85500LUX
More info, page 10

Art. No. **85510**



A	59 mm / 2.3"
B	61 mm / 2.4"
C	65 mm / 2.6"
D	62 mm / 2.4"
E	63 mm / 2.5"
F	60 mm / 2.4"

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 centers / 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 large channels, built-in handles for easy portability, and a 5.0 ton/ 11,023 lbs. per 20 x 20 cm / 7.9" x 7.9" 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 malls, and music events.

SPECIFICATIONS:

Art. No.:	85002
Product:	Three-channel cable protector
Channel W x H:	52 x 49 mm / 2.1" x 2.0" (channels 1 and 3), 45 x 50 mm / 1.8" x 2.0" (channel 2)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	5.0 ton/11,023 lbs. / 20 x 20 cm / 7.9" x 7.9" (typical tire footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° to +60° C / -22° F to 140° F
Length:	1005 mm / 39.6"
Width:	605 mm / 23.8"
Height:	75 mm / 3.0"
Weight:	23.7 kg / 52.2 lbs.

OPTIONAL COMPONENTS:

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

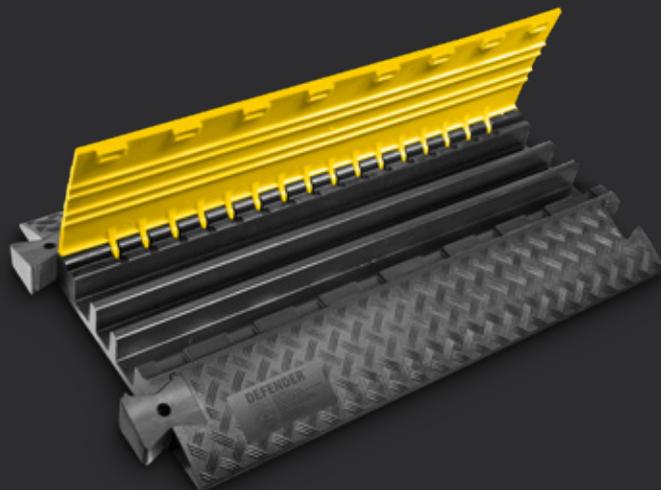
Art. No.: **85009**

DEFENDER® 3 End Ramp

Art. No.: **85008**

DEFENDER® 3 Dovetail Connector

Art. No.: **85004**





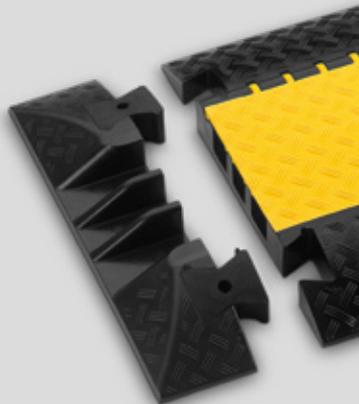
**ALSO AVAILABLE
AS LUX VERSION!**

Art. No. 85002LUX
More info, page 10

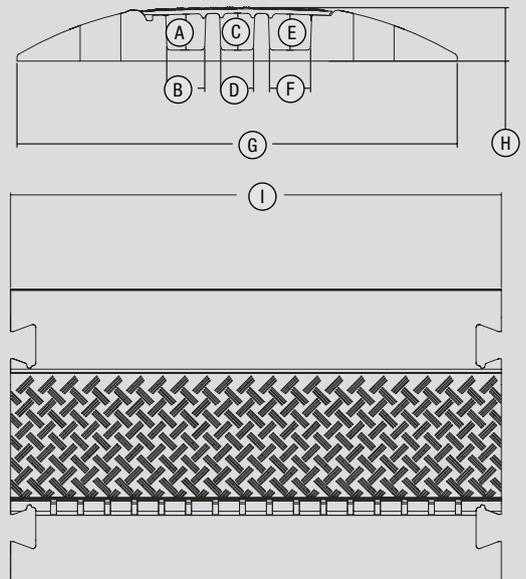
Art. No. **85009**



Art. No. **85008**



Art. No. **85004**



A	49 mm / 2.0"	D	45 mm / 1.8"	G	605 mm / 23.8"
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 centers / 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

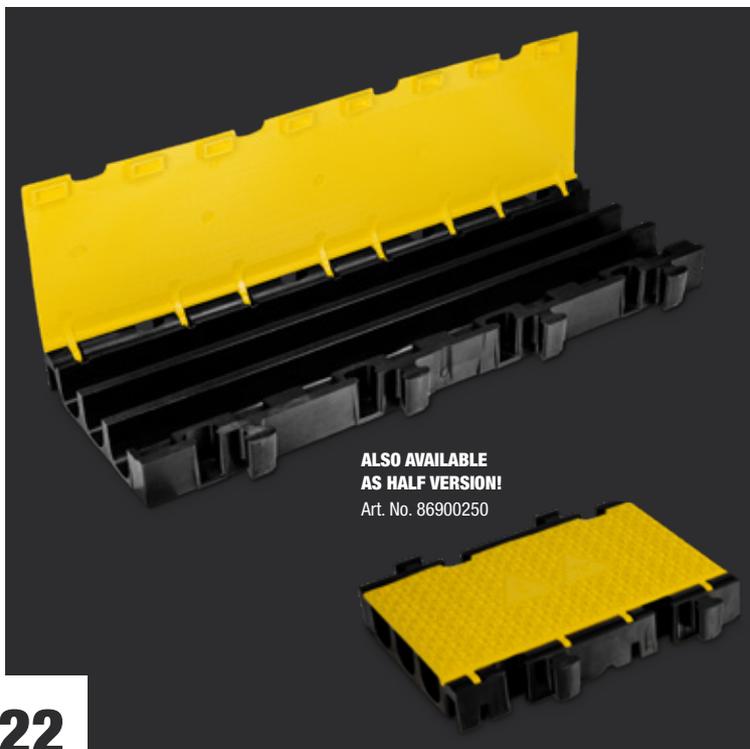
Middle section

'Barrier-free Accessibility' has become a topic of mounting concern for both public authorities and event organizers 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 in lengthwise direction.

SPECIFICATIONS:

Art. No.:	869002
Product type	Cable Protectors
Type	3 Channels
Width	395 mm
Height	73 mm
Length	1000 mm
Channels	3
Width channel 1	52 mm
Height channel 1	49 mm
Width channel 2	45 mm
Height channel 2	50 mm
Width channel 3	52 mm
Height channel 3	49 mm
Material	Polyurethane
Max load	Approx. 5 t on a surface area of 20 x 20 cm
Hardness range	88 Shore ± 4 Shore
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Temperature range	-40 bis +70 °C
Weight	13,5 kg
Special feature	Available also in B1, TÜV Pending



Art. No. **8690021ASET**





NEW!
MODULE SYSTEM
FOR BARRIER-
FREE ACCESS
 More Info page 9.

OPTIONAL COMPONENTS:

DEFENDER® 3 2D ADAPTER SET

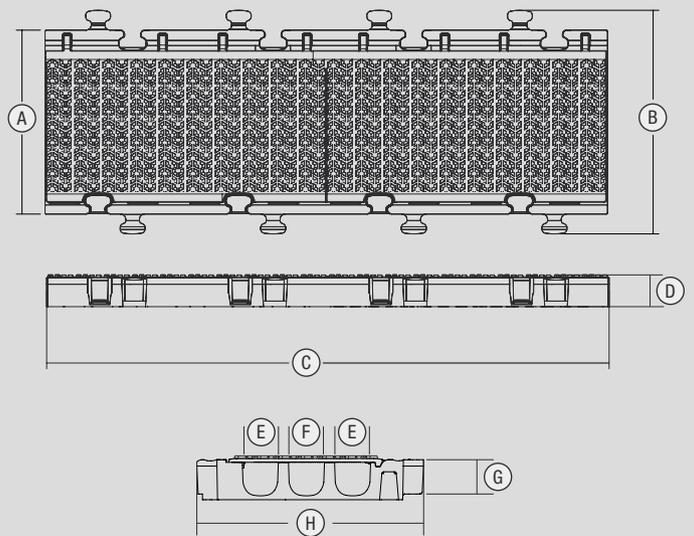
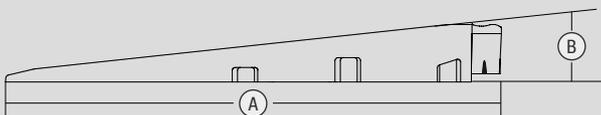
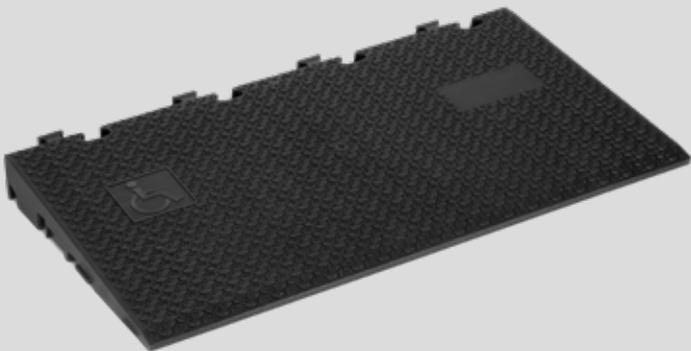
Art. No.: **8690021ASET**

DEFENDER® 3 2D RAMP

Art. No. **8690021**

Art. No. **8690021**

A	600 mm / 23.62"
B	6°



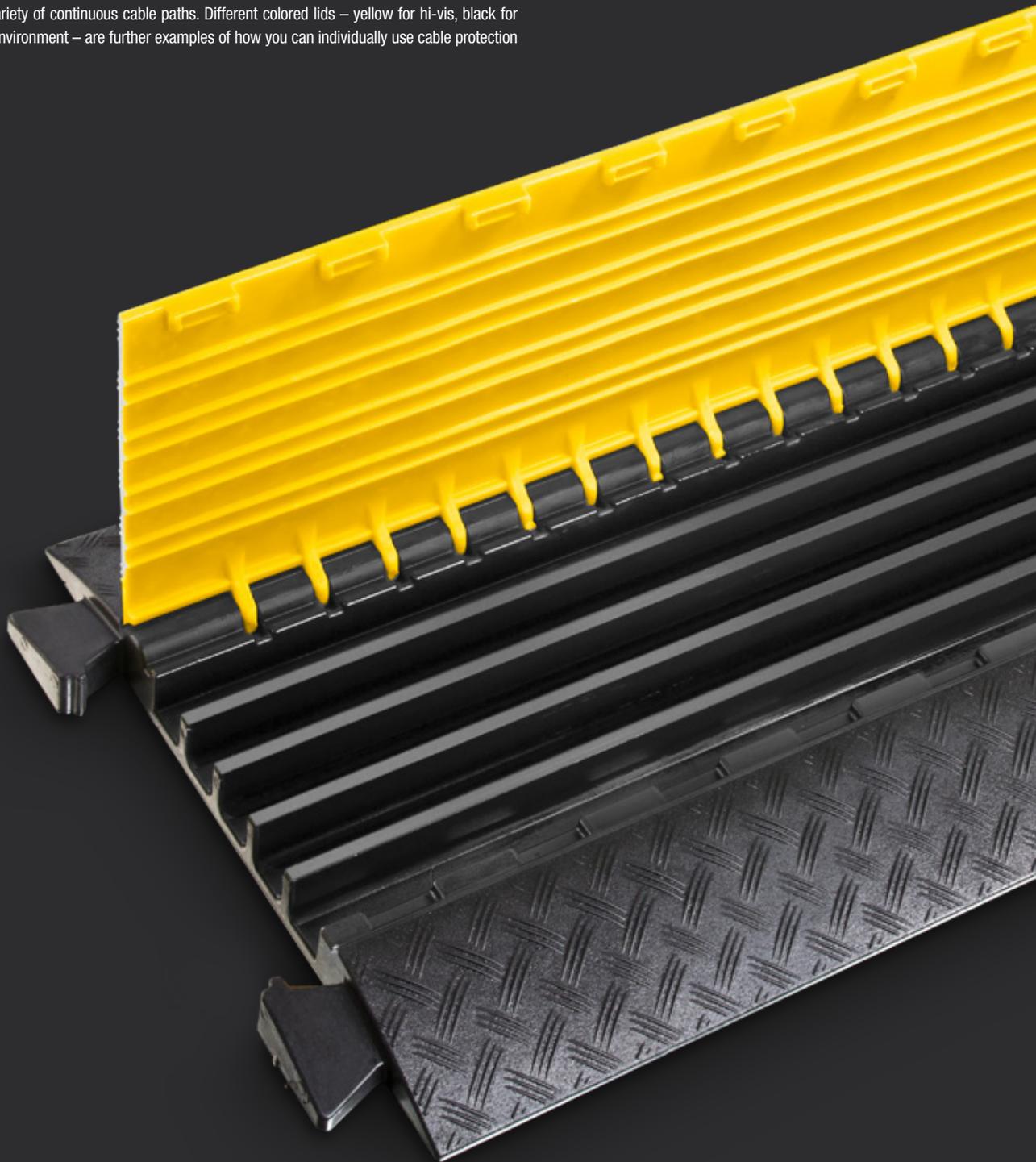
A	330 mm / 13.0"	D	73 mm / 2.9"	G	68 mm / 2.7"
B	395 mm / 15.6"	E	52 mm / 2.1"	H	325 mm / 12.8"
C	1000 mm / 39.4"	F	45 mm / 1.78"		

DEFENDER® MIDI SERIES

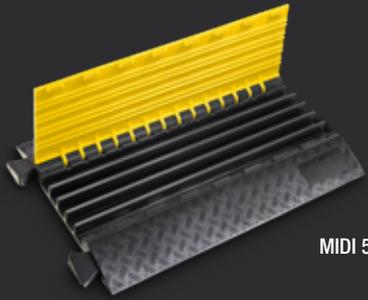
Your cable protection system must cater to many different demands. That's why the multifaceted, extremely flat yet secure DEFENDER® MIDI cable protector is designed for a whole range of indoor and outdoor uses. It can withstand loads of approx. 5 tonnes per 20 x 20 cm, making it fit for heavy-duty traffic,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

5 CHANNELS:

34 x 36 MM

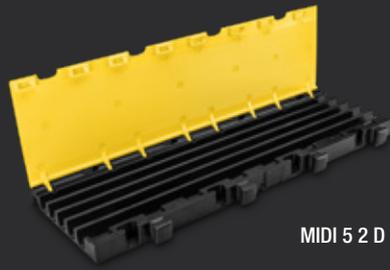
COLOR AVAILABLE:

- With yellow lid
- With black lid



HALF VERSION AVAILABLE: No

LUX VERSION AVAILABLE: Yes



MIDI 5 2 D

5 CHANNELS:

34 x 36 MM

COLOR AVAILABLE:

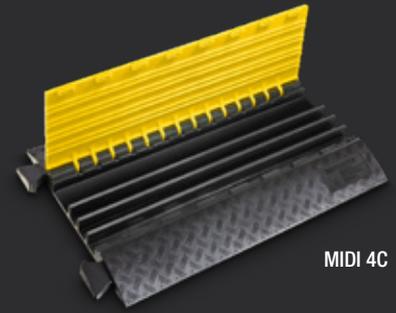
- With yellow lid
- With blue lid



HALF VERSION AVAILABLE: Yes



LUX VERSION AVAILABLE: No



MIDI 4C

4 CHANNELS:

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

COLOR AVAILABLE:

- With yellow lid
- With black lid



HALF VERSION AVAILABLE: No

LUX VERSION AVAILABLE: Yes

ACCESSORIES:

MIDI C:

45° Curve for 85300
Cable Protector
5-channels



MIDI ER:

End Ramp



MIDI 5 2D ADAPTER SET:

Adapter Set for connecting Middle
Section/Ramp with Midi Cable Protector



MIDI ER:

End Ramp



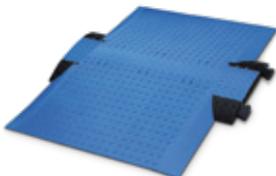
For further information see page 26-27

For further information see page 28-29

For further information see page 32-33

WHEELCHAIR RAMPS:

MIDI SET



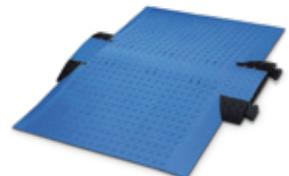
For further information see page 31

MIDI 5 2D R



For further information see page 30

MIDI SET



For further information see page 31

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / christmas markets / workshops / warehouses / shopping centers / 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 lbs. per 20 x 20 cm / 7.9" x 7.9" 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 x 36 mm / 1.3" x 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 malls, broadcasting, and music events. Available system option: wheelchair ramp (see page 31).

SPECIFICATIONS:

Art. No.:	85300
Product:	Five-channel cable protector
Channel W x H:	34 x 36 mm / 1.3" x 1.4" (channels 1 to 5)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton / 11,023 lbs. / 25 x 30 cm / 7.9" x 7.9" (typical tire footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° 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 lbs.
Special feature	TÜV Type tested / Production monitored

OPTIONAL COMPONENTS:

DEFENDER® MIDI 45° Curve for DEFENDER® MIDI

Connectors are detachable and can be mounted on both sides.

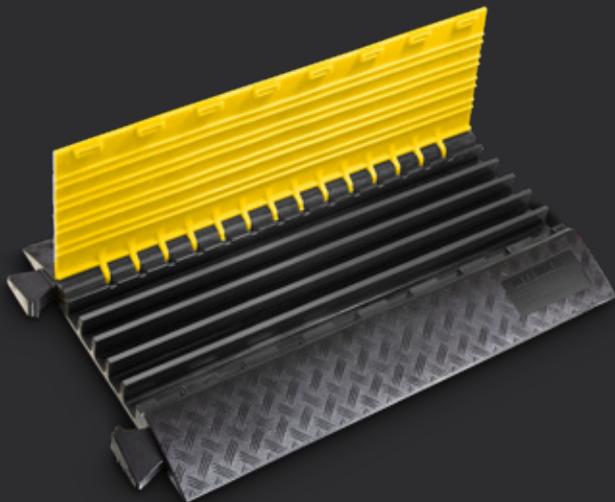
Art. No.: **85310**

DEFENDER® MIDI END RAMP, connectors included

Art. No.: **85308**

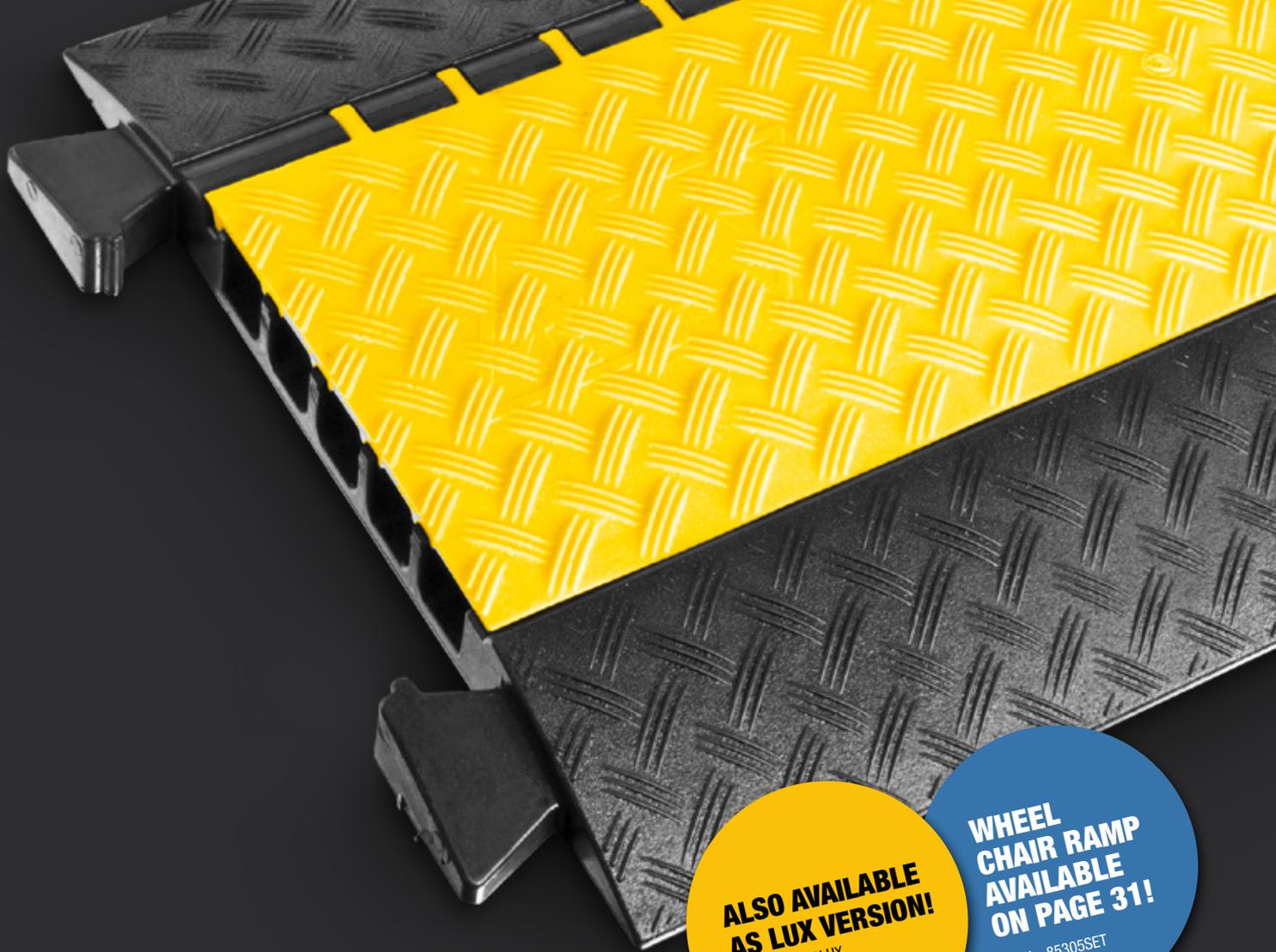
DEFENDER® WHEELCHAIR RAMP

Art. No.: **85305SET** (for detailed information, see page 31)



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





**ALSO AVAILABLE
AS LUX VERSION!**
Art. No. 85300LUX
More info, page 10

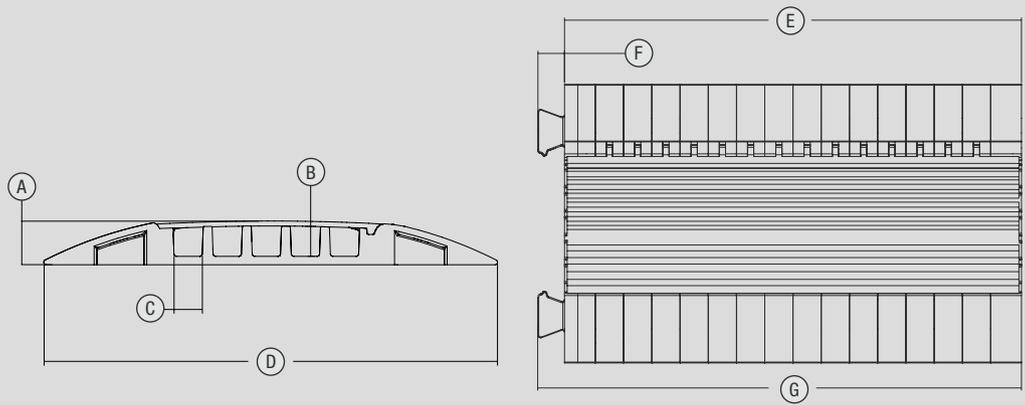
**WHEEL
CHAIR RAMP
AVAILABLE
ON PAGE 31!**
Art. No. 85305SET

Art. No. **85310**



With black lid
Art. No. **85310BLK**

Art. No. **85308**



A	55 mm / 2.2"
B	36 mm / 1.4"
C	34 mm / 1.3"
D	538 mm / 21.2"

E	870 mm / 34.3"
F	54 mm / 2.1"
G	942 mm / 37"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / christmas markets / workshops / warehouses / shopping centers / 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

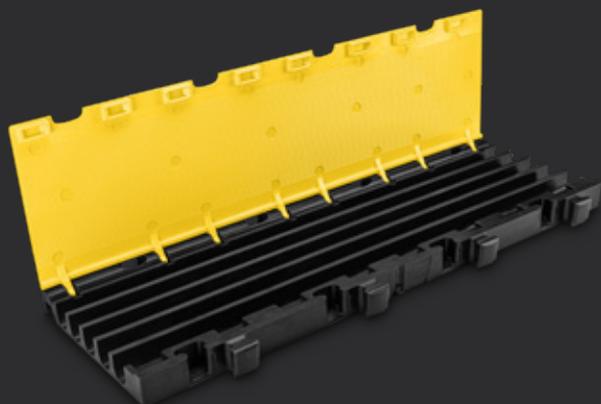
Middle section

'Accessibility' has become a topic of mounting concern for both public authorities and event organizers 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 play around 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 be installed without ramps.

SPECIFICATIONS:

Art. No.:	869300
Product type	Cable Protectors
Type	5 Channels
Length	1,000 mm / 39.4"
Height	54 mm / 2.1"
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 (B-s1 pending)
Temperature range	-30 to 60°C
Special feature	2D cable protectors (modular in length and width), TÜV Type tested / Production monitored
Weight	11.5 kg / 25.4 lbs.

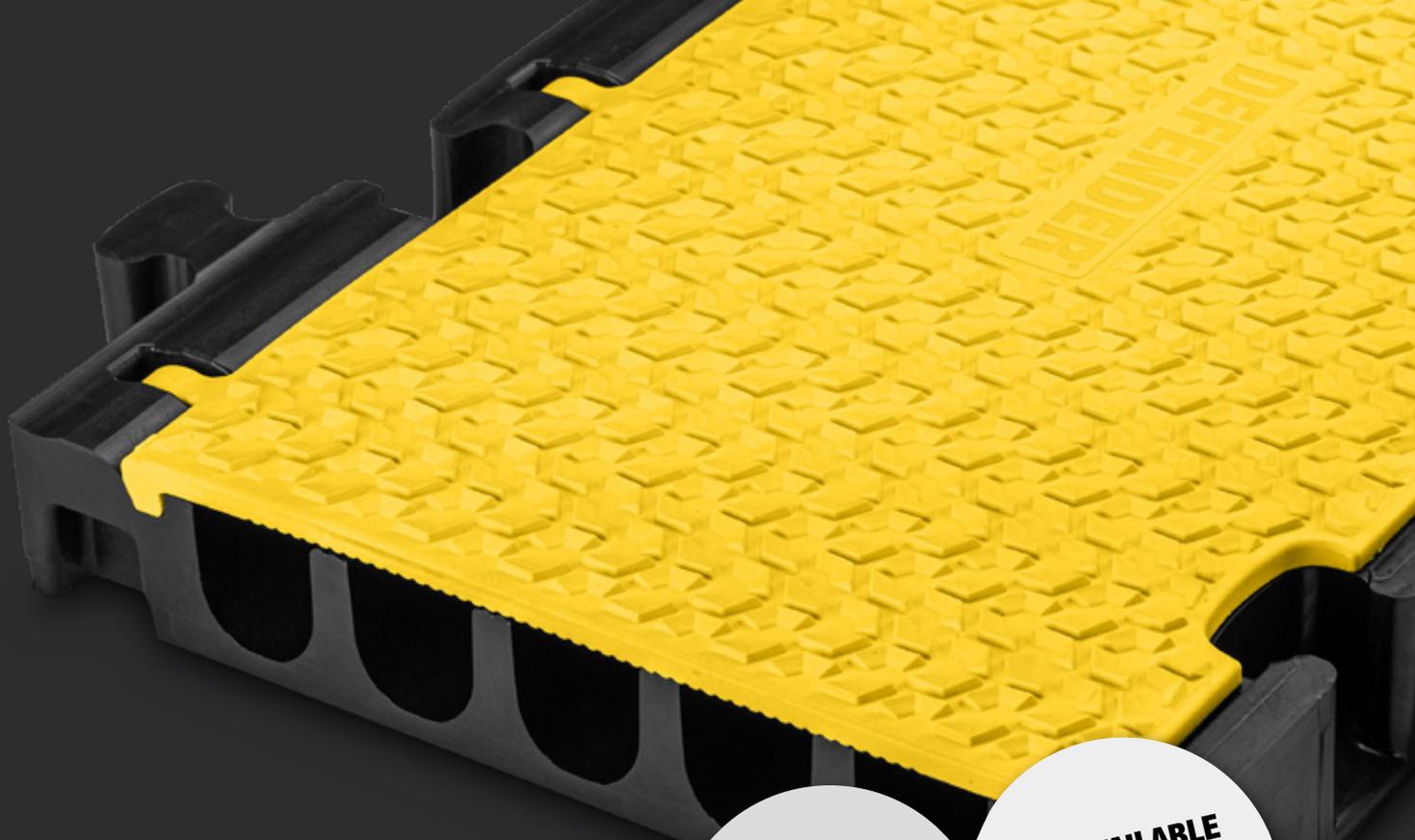


**ALSO AVAILABLE
AS HALF VERSION!**
Art. No. 869350



Art. No. **869301ASET**





NEW!
MODULE SYSTEM
FOR BARRIER-
FREE ACCESS
 More Info page 8.

ALSO AVAILABLE
AS BLUE VERSION!
 Art. No. 869300BLUE



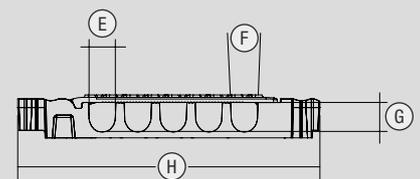
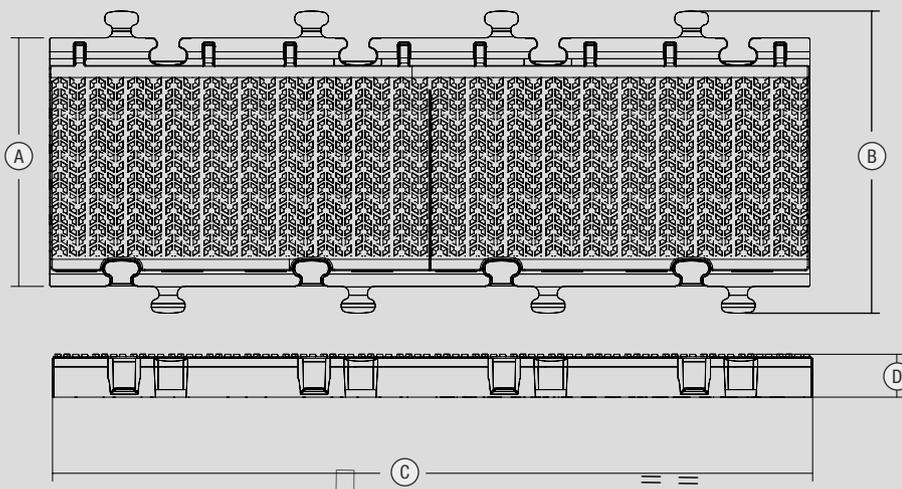
OPTIONAL COMPONENTS:

DEFENDER® 5 2D ADAPTER SET

Art. No.: 869301ASET

DEFENDER® 5 2D RAMP

Art. No. 869301



A	325 mm / 12.8"	E	34.5 mm / 1.4"
B	398 mm / 15.7"	F	4°C
C	1000 mm / 39.4"	G	38.1 mm / 1.5"
D	54 mm / 2.1"	H	397.7 mm / 15.7"

RANGE OF APPLICATION

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

DEFENDER® MIDI 5 2D

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

Ramp

'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 that's not the case with the new DEFENDER® 2D M: each middle section is equipped with a 6° inclined, barrier-free 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 tonnes per 20 x 20 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.

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 spacers.

The connections were engineered to provide enough room to play around for simple assembly but also to offer a sufficient level of stability. To connect ramps lengthwise, 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.

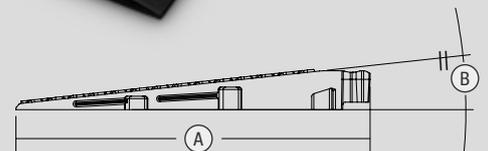
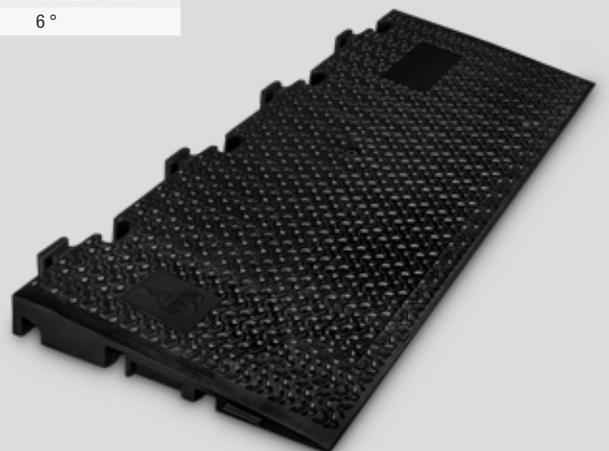
SPECIFICATIONS:

Art. No.:	869301
Type	Ramp Module
Material	Polyurethane
Length	1000 mm
Height	54 mm
Width	430 mm
Color	Black
Max load	approx. 5 t on a surface area of 20 x 20 cm
Hardness range	88 Shore ± 4 A Shore
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Temperature range	-30 to + 60 °C
Special feature	2D cable protectors (modular in length and width), TÜV Type tested / Production monitored
Weight	8.5 kg / 18.74 lbs.



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

A	430 mm / 16.9"
B	6 °



RANGE OF APPLICATION

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

DEFENDER® MIDI SET

WHEELCHAIR RAMP SET

The DEFENDER® WHEELCHAIR RAMP has been designed for use with the DEFENDER® MIDI cable protection system also providing easy access for walking frames, trolleys, and dollies. The set includes a DEFENDER® MIDI cable guard with blue lid and bolt holes for the required ground fixing, six threshold ramps, and four side slants. Made from acid, oil, solvent, and gasoline-resistant TPU (thermoplastic polyurethane), the DEFENDER® WHEELCHAIR RAMP components are also available individually for ramp width extension. Please note: the DEFENDER® WHEELCHAIR RAMP does not support vehicle traffic.

DEFENDER® WHEELCHAIR RAMP Set

Art. No.: 85305SET

OPTIONAL COMPONENTS:

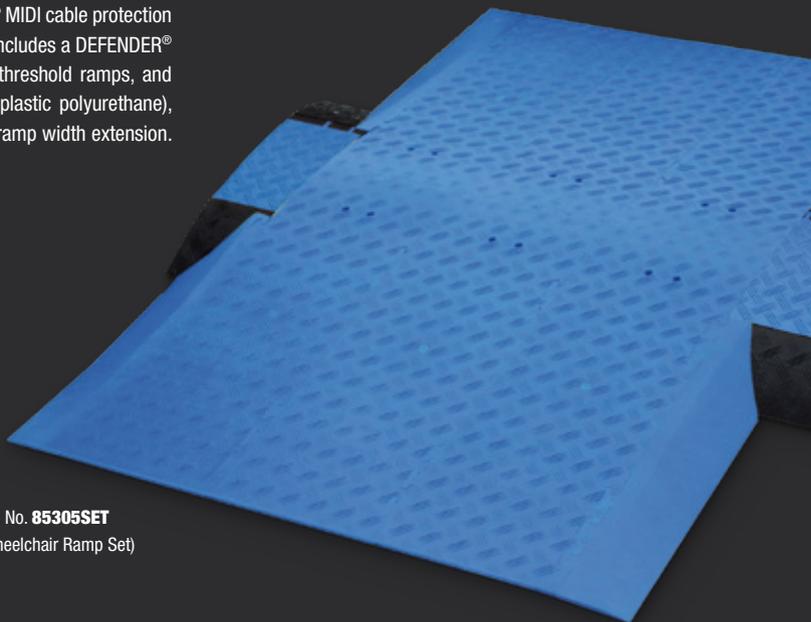
DEFENDER® WHEELCHAIR RAMP Components

Art. No.: **85300BLUE** DEFENDER® MIDI Cable Protector

Art. No.: **85306** Threshold Ramp

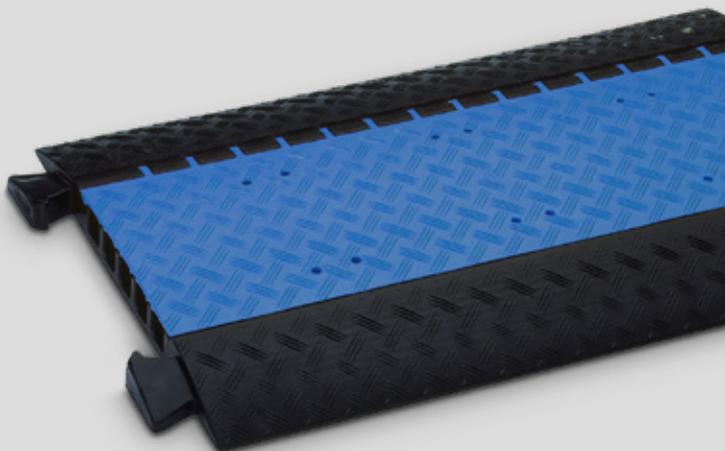
Art. No.: **85307L** Side Slant left

Art. No.: **85307R** Side Slant right



Art. No. **85305SET**
(Wheelchair Ramp Set)

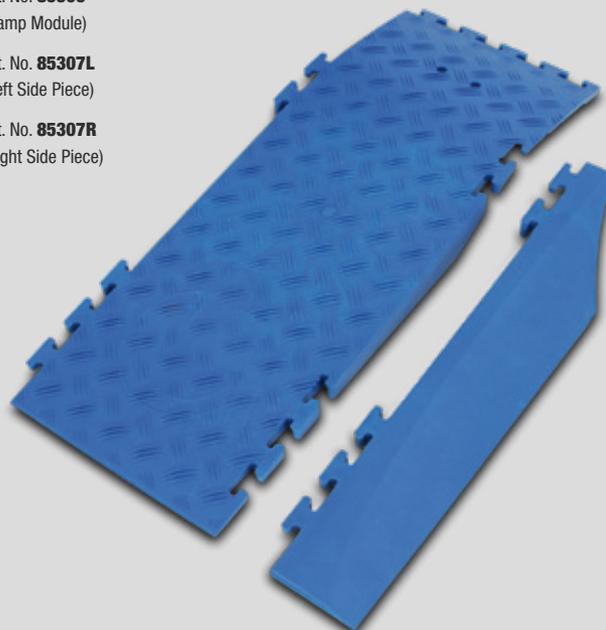
Art. No. **85300BLUE**
(Midi Cable Protector)



Art. No. **85306**
(Ramp Module)

Art. No. **85307L**
(Left Side Piece)

Art. No. **85307R**
(Right Side Piece)



RANGE OF APPLICATION

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

DEFENDER® MIDI 4C

3 MEDIUM-SIZED CABLE CHANNELS – 1 LARGE CHANNEL FOR FIRE HOSES

With one wide 80 x 36 mm / 3.2" x 1.4" channel and three 34 x 36 mm / 1.3" x 1.4" ducts, the DEFENDER® MIDI 4C 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 lbs. per 20 x 20 cm / 7.9" x 7.9" load capacity of the DEFENDER® MIDI system MIDI 4C protectors are suitable for heavy wheeled traffic, construction sites, warehouses, carnivals, fairs, trade shows, exhibitions, shopping malls, and music events.

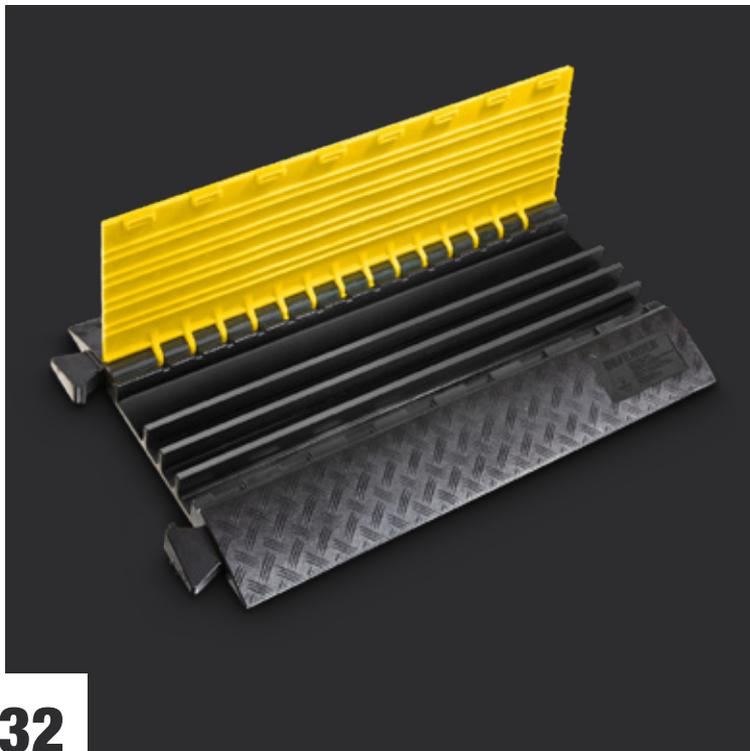
SPECIFICATIONS:

Art. No.:	85301
Product:	Four-channel cable protector
Channel W x H:	34 x 36 mm / 1.3" x 1.4" (channels 1 to 3), 80 x 36 mm / 3.2" x 1.4" (channel 4)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 5.0 ton/11,023 lbs. per typical tire imprint (20 x 20 cm / 7.9" x 7.9")
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° 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 / 29.8 lbs.

OPTIONAL COMPONENTS:

**DEFENDER® MIDI 4C End Ramp,
connectors included**

Art. No.: **85308**



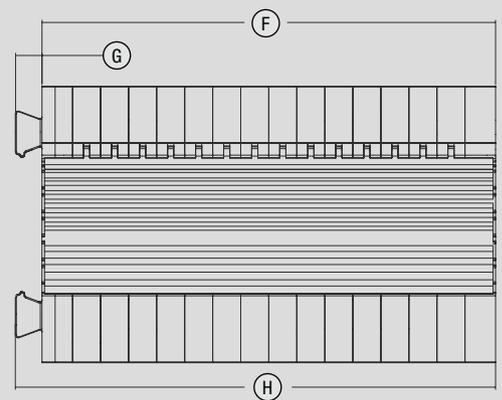
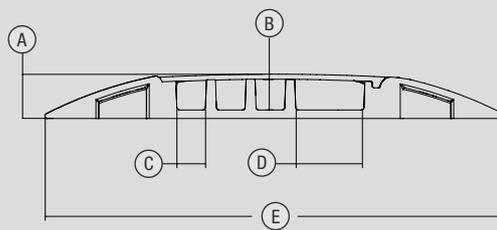
With black lid
Art. No. **85301BLK**





**ALSO AVAILABLE
AS LUX VERSION!**
Art. No. 85301LUX
More info, page 10

Art. No. **85308**



A	55 mm / 2.2"	E	538 mm / 21.2"
B	36 mm / 1.4"	F	870 mm / 34.3"
C	34 mm / 1.3"	G	52 mm / 2.0"
D	80 mm / 3.2"	H	942 mm / 37.1"

RANGE OF APPLICATION

Trade fairs / walkways / marketplaces / christmas markets / workshops / warehouses / shopping centers / 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 lbs. per 20 x 20 cm / 7.9" x 7.9" load capacity, DEFENDER® MINI protectors support lightweight vehicles, carts, and pedestrian traffic. Applications include carnivals, fairs, trade shows, exhibitions, shopping malls, warehouses, stages, studios, and broadcasting. Not suitable for road traffic.

SPECIFICATIONS:

Art. No.:	85200	
Product:	Three-channel cable protector	
Channel W x H:	35 x 30 mm / 1.4" x 1.2" (channels 1 and 3), 35 x 35 mm / 1.4" x 1.4" (channel 2)	
Material:	TPU (thermoplastic polyurethane)	
Shore A hardness:	88 ± 4	
Max. load capacity:	Tons (area 20 x 20)	Channel filling height
	1.2 T / 2645.6 lbs.	25.2 mm
	2.0 T / 4409.4 lbs.	19.8 mm
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)	
Resistant to:	Oil, petrol and short-term contact with solvent	
Operating temperature:	-30° to +60° C / -22° F to 140° F	
Length:	1005 mm / 39.6"	
Width:	290 mm / 11.4"	
Height:	50 mm / 2.0"	
Special feature	TÜV Type tested / Production monitored	
Weight:	6.0 kg / 13.3 lbs.	

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**

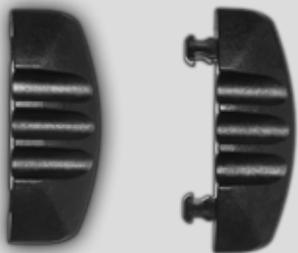




**ALSO AVAILABLE
AS LUX VERSION!**
Art. No. 85200LUX
More Info, page 10

Art. No. **85208F**

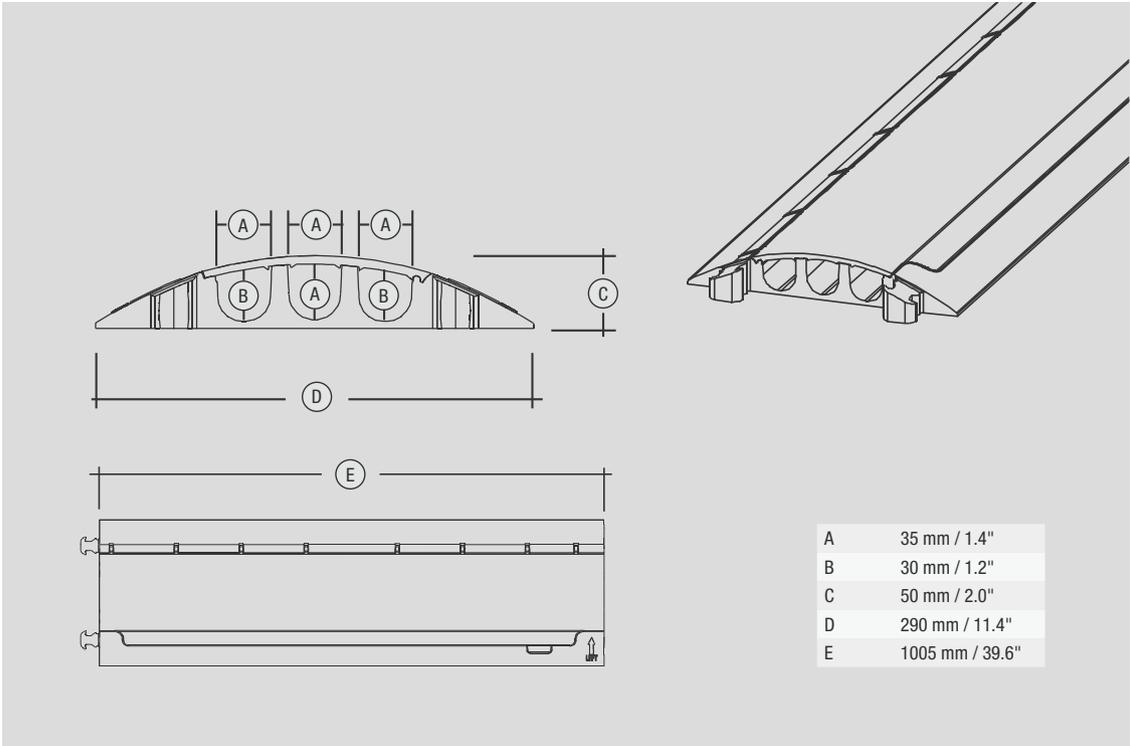
Art. No. **85208M**



Art. No. **85210L**



Art. No. **85210R**



RANGE OF APPLICATION

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

DEFENDER® MICRO 2

2 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, stages or studios. It has two 35 x 30 mm cable guides for high-power cables and water hoses. With a maximum load capacity of 2 tons per 20 x 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 x H:	35 x 30 mm / 1.4" x 1.2" (channels 1 and 3), 35 x 30 mm / 1.4" x 1.2" (channel 2)	
Material:	TPU (thermoplastic polyurethane)	
Shore A hardness:	88 ± 4	
Max. load capacity:	Tons (area 20 x 20)	Channel filling height
	1.3 T / 2866,01 lbs.	21 mm
	2.0 T / 4409,4 lbs.	18 mm
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)	
Resistant to:	Oil, petrol and short-term contact with solvent	
Operating temperature:	-30° 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:	5.2 kg / 11.5 lbs.	

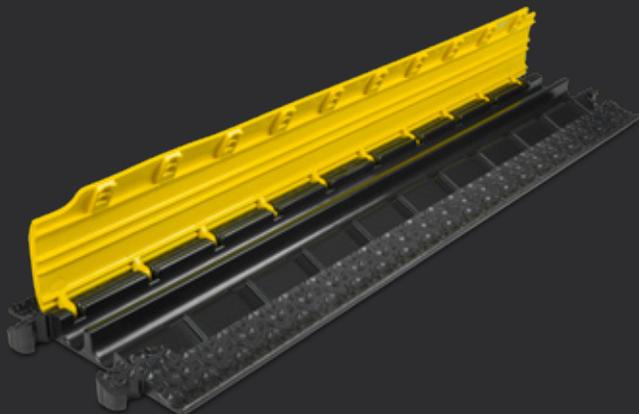
OPTIONAL COMPONENTS:

DEFENDER® MICRO End Ramp female

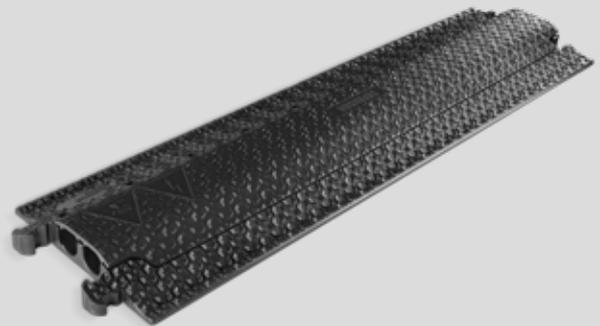
Art. No.: **86101F**

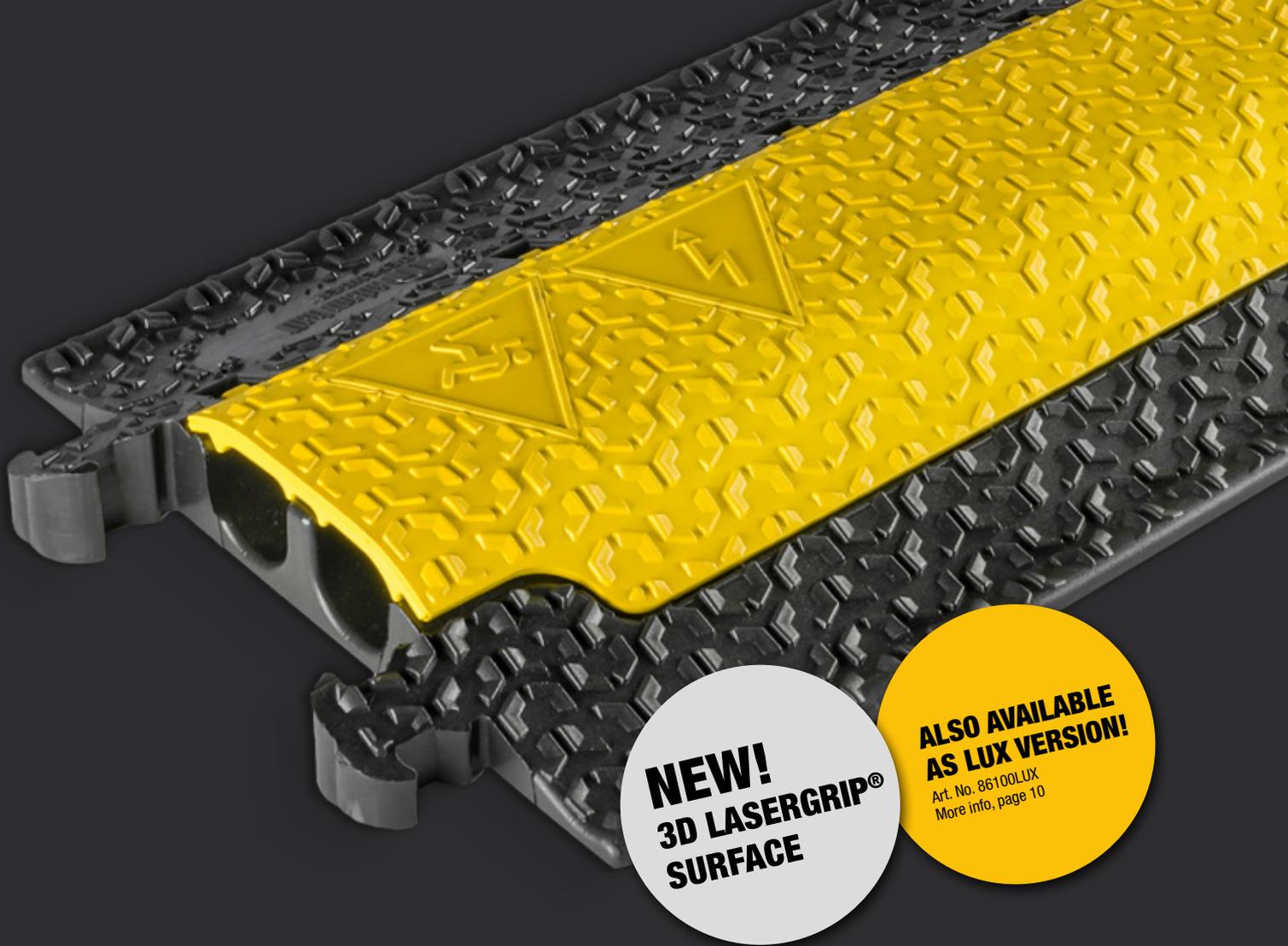
DEFENDER® MICRO End Ramp male

Art. No.: **86101M**



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





NEW!
3D LASERGRIP®
SURFACE

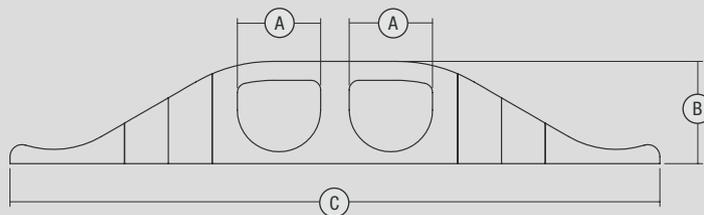
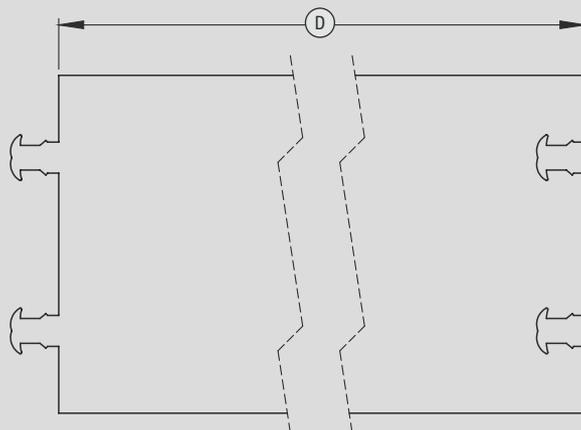
**ALSO AVAILABLE
AS LUX VERSION!**

Art. No. 86100LUX
More info, page 10

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 centers / events / department stores / construction sites, streets, etc.

DEFENDER® NANO

SIX SLIM CHANNELS – DISCRETE 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 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 lbs. per 20 x 20 cm / 7.9" x 7.9" load capacity to support lightweight vehicles, carts, and pedestrian traffic but also 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 malls, warehouses, stages, studios, and broadcasting. Not suitable for road traffic.

SPECIFICATIONS:

Art. No.:	85150
Product:	Six-channel cable protector
Channel W x H:	17 x 18 mm / 0.7" x 0.7" (channels 1 to 6)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	88 ± 4
Load capacity:	Approx. 2.0 ton/4,409 lbs. / 20 x 20 cm / 7.9" x 7.9" (typical tire footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° to +60° C / -22° F to 140° F
Length:	1010 mm / 39.8"
Width:	285 mm / 11.2"
Height:	32 mm / 1.3"
Weight:	4.8 kg / 10.6 lbs.

OPTIONAL COMPONENTS:

DEFENDER® NANO End Ramp female

Art. No.: **85158F**

DEFENDER® NANO End Ramp male

Art. No.: **85158M**



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





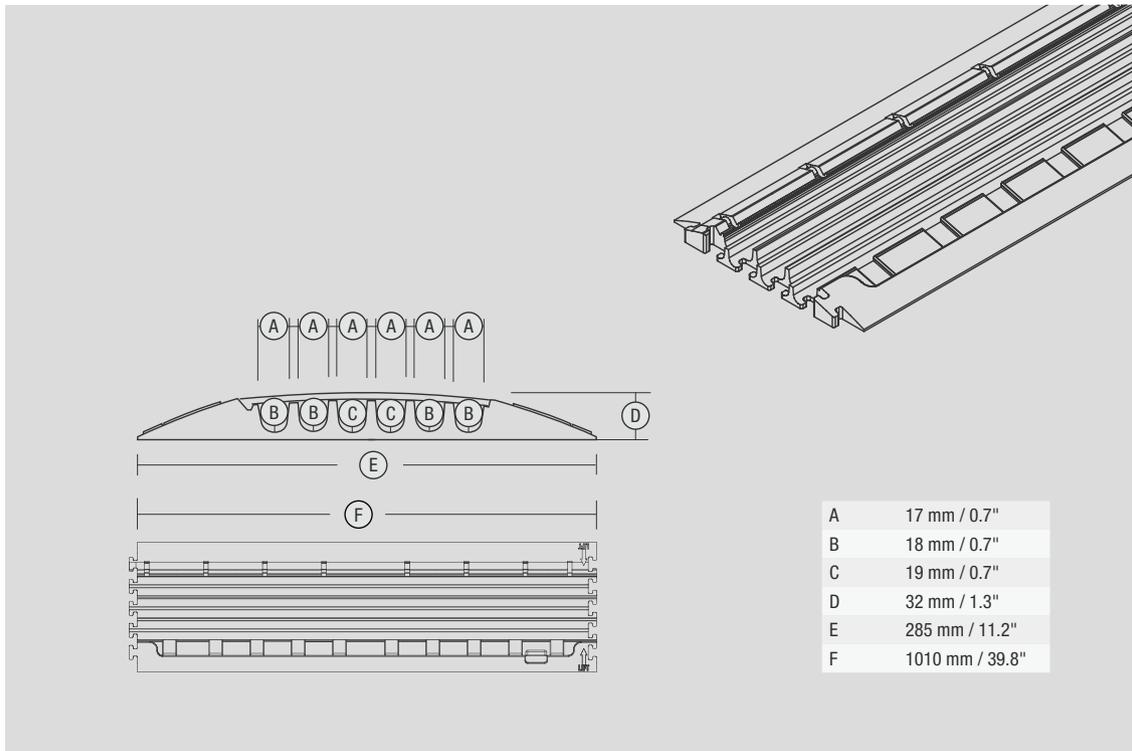
**ALSO AVAILABLE
AS LUX VERSION!**

Art. No. 85150LUX
More info, page 10

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 malls, 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 line up to form a rigid continuous protection system. The range of applications includes construction sites, carnivals, fairs, trade shows, exhibitions, warehouses, shopping malls, and music events.

SPECIFICATIONS:

Art. No.:	85100	85103 (optional base), 85100 (drop-over)
Product:	Seven-channel cable protector	Five-channel cable protector
Channel W x H:	28 x 23 mm / 1.1" x 0.9" (channels 1 and 7), 28 x 27 mm / 1.1" x 1.1" (channels 2 and 6), 28 x 29 mm / 1.1" x 1.1" (channels 3 and 5), 28 x 30 mm / 1.1" x 1.1" (channel 4)	22 x 21 mm / 0.9" x 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 (B-s1 pending)	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° to +60° C / -22° F to 140° F	-30° to +60° C / -22° F to 140° F
Length:	810 mm / 31.9"	810 mm / 31.9"
Width:	410 mm / 16.1"	235 mm / 9.3"
Height:	37 mm / 1.5"	30 mm / 1.2"
Weight:	3.6 kg / 7.9 lbs	5.6 kg / 12.3 lbs (base with drop-over)

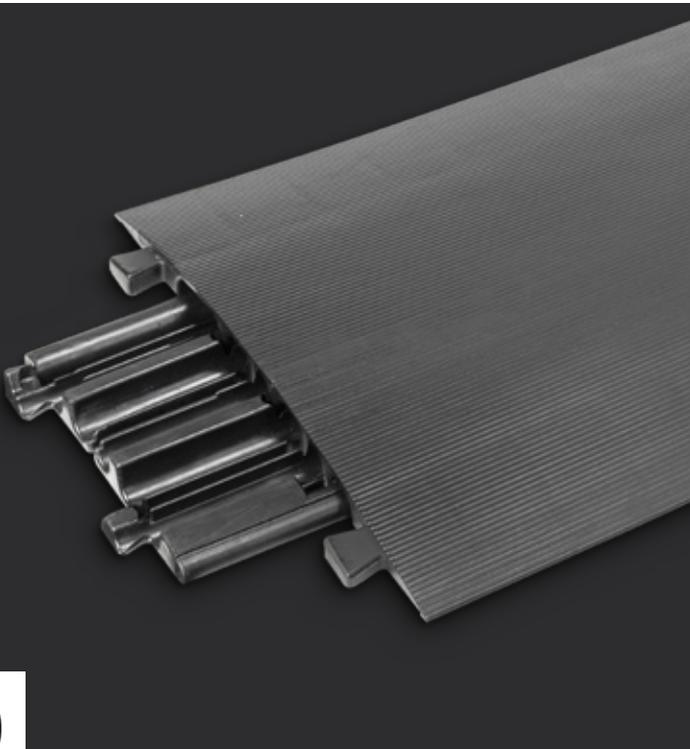
OPTIONAL COMPONENTS:

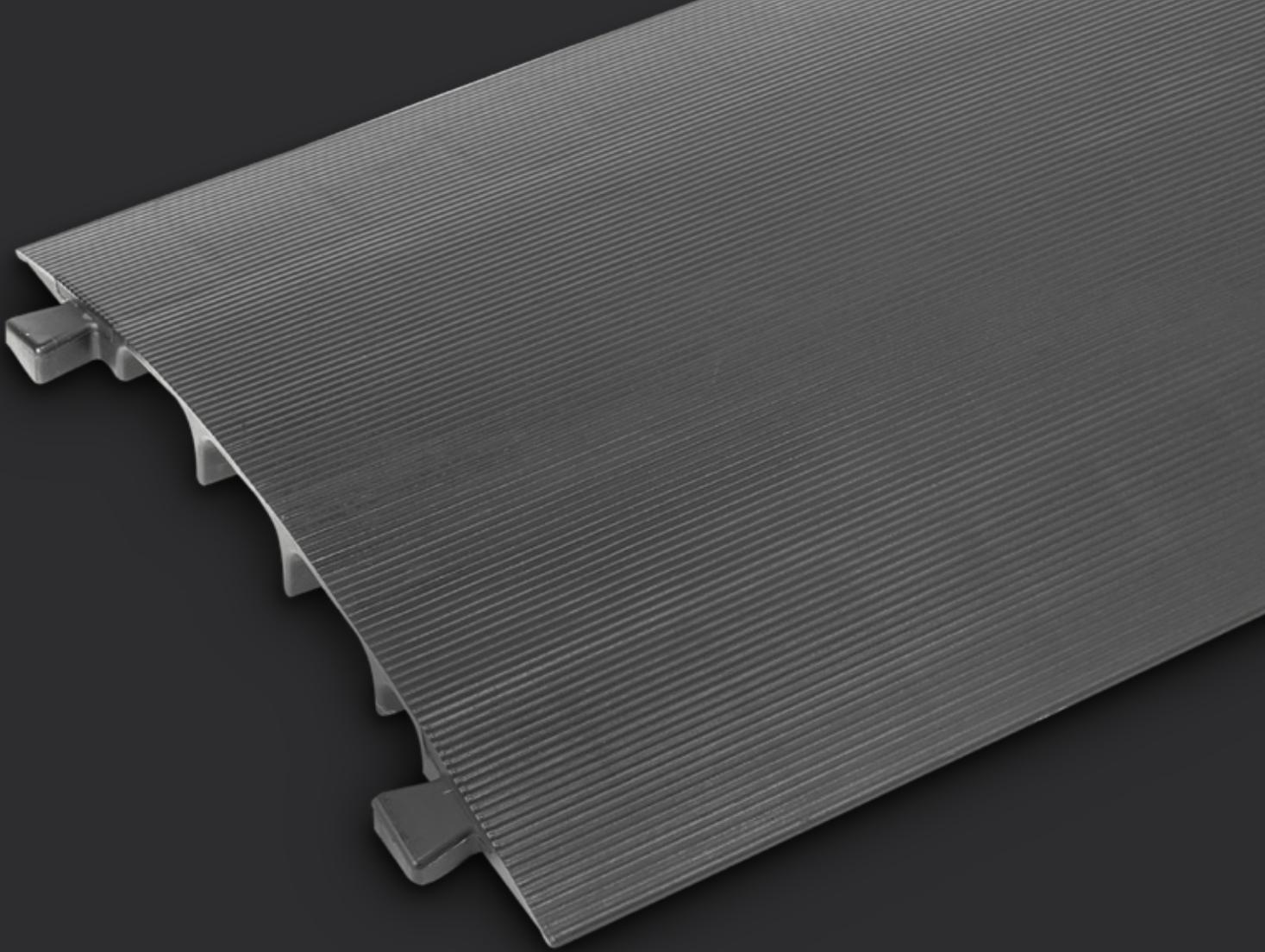
DEFENDER[®] COMPACT (drop-over)

Art. No.: **85100**

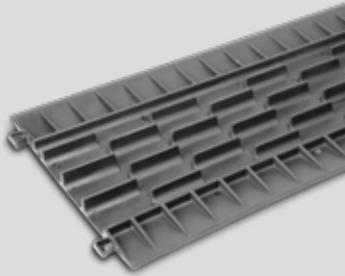
DEFENDER[®] COMPACT BASE

Art. No.: **85103**

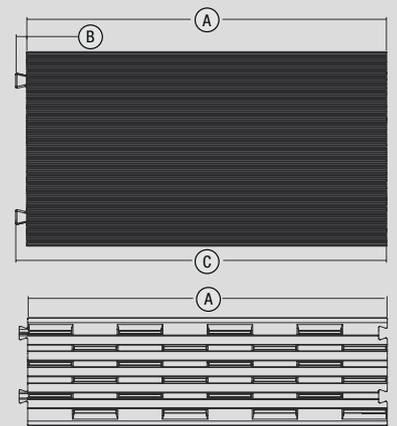
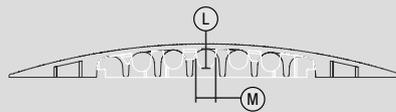
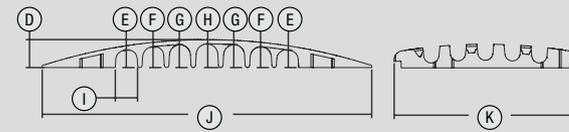
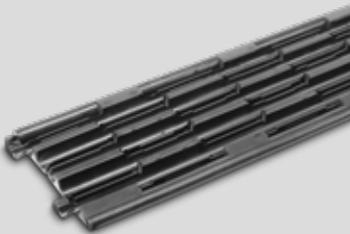




Art. No. **85100** (bottom view)



Art. No. **85103**



A	810 mm / 31.9"	H	30 mm / 1.1"
B	25 mm / 1.0"	I	28 mm / 1.1"
C	830 mm / 32.7"	J	410 mm / 16.1"
D	37 mm / 1.5"	K	235 mm / 9.3"
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® OFFICE

FOUR MINI CHANNELS – INDOOR & DESIGN SOLUTION

Available with a choice of black, grey, and yellow colors, the DEFENDER® OFFICE cable protection system is the elegant solution for secure pedestrian traffic in conference facilities, exhibitions, public buildings, retail outlets, shopping malls, 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 x H:	10 x 10 mm / 0.4" x 0.4" (channels 1 and 4), 12 x 12 mm / 0.5" x 0.5" (channels 2 and 3)
Material:	TPU (thermoplastic polyurethane)
Shore A hardness:	92 ± 4
Load capacity:	2.0 ton/4,409 lbs. / 20 x 20 cm / 7.9" x 7.9" (typical tyre footprint area)
Fire classification:	Class E in accordance with DIN EN 13501-1 (B-s1 pending)
Resistant to:	Oil, petrol and short-term contact with solvent
Operating temperature:	-30° to +60° C / -22° F to 140° F
Length:	865 mm / 34.1"
Width:	125 mm / 4.9"
Height:	20 mm / 0.8"
Weight:	1.2 kg / 2.6 lbs.

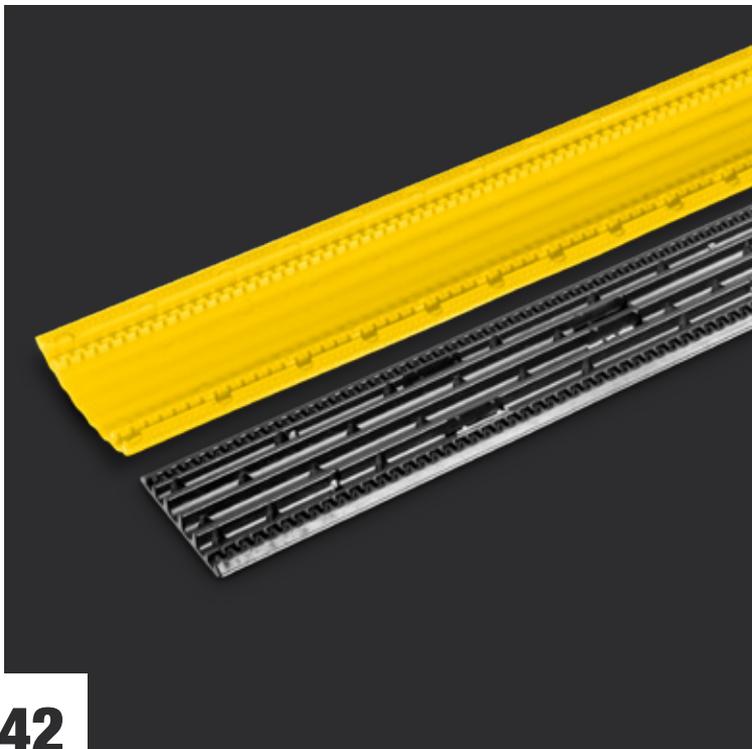
OPTIONAL COMPONENTS:

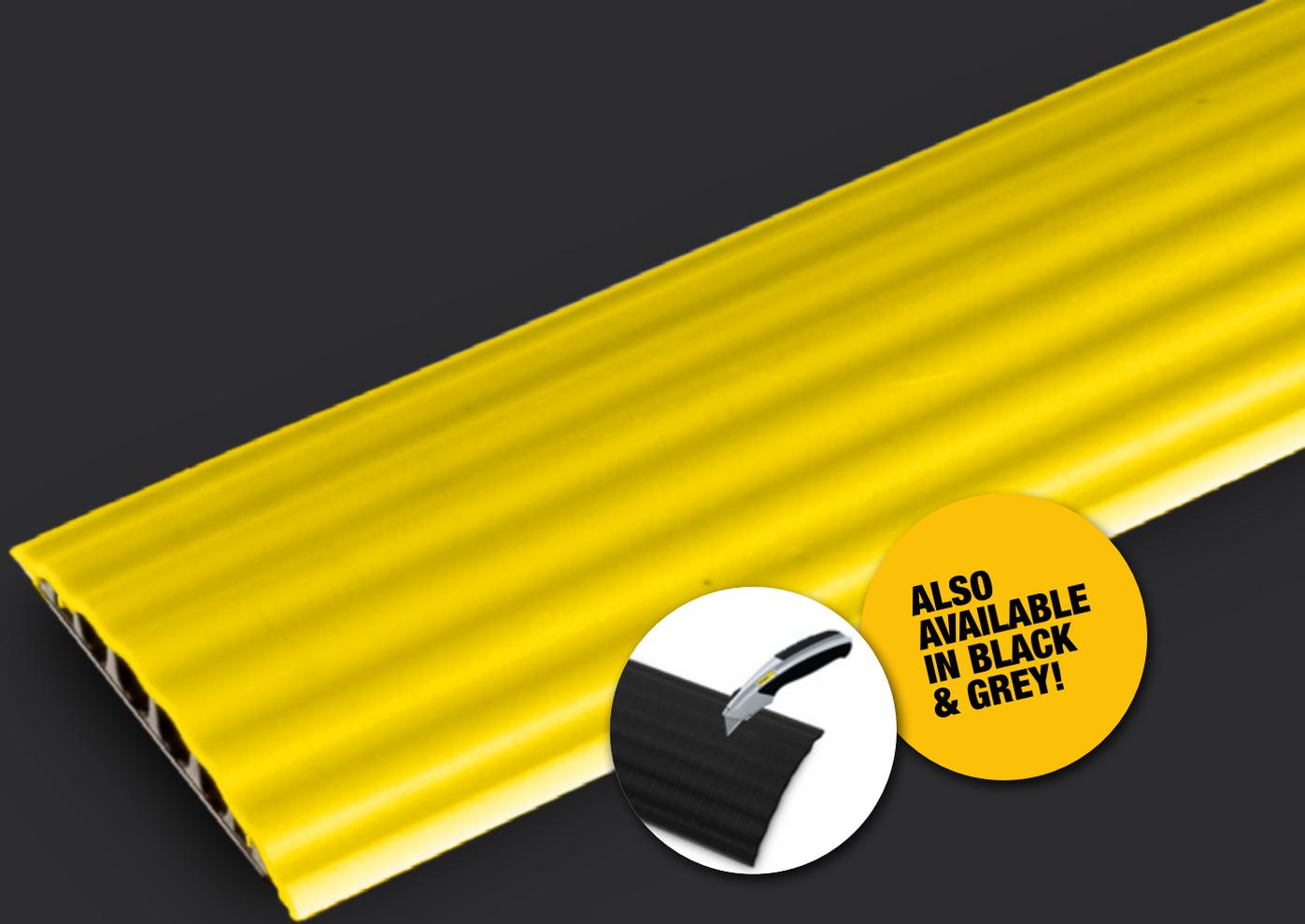
DEFENDER® OFFICE 90° Curve

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

DEFENDER® OFFICE End Ramp

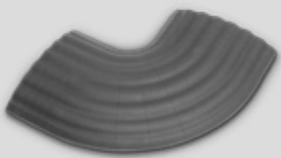
Art. No.: **85168** (black), **85168GREY**, **85168YEL**



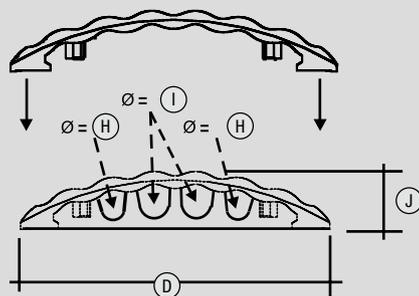
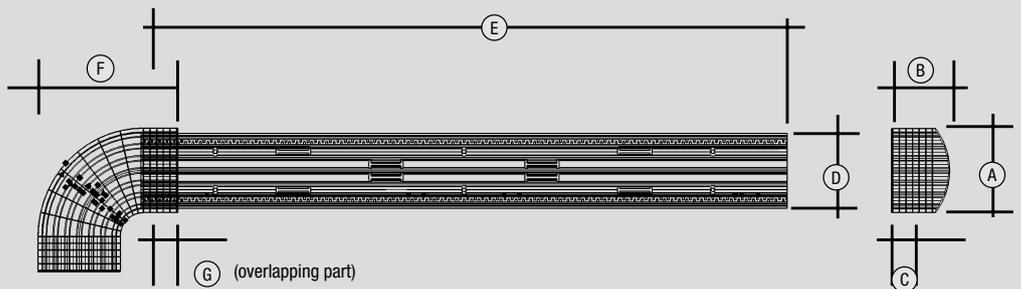
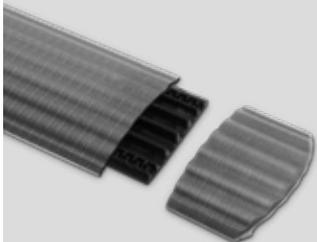


**ALSO
AVAILABLE
IN BLACK
& GREY!**

Art. No. **85161GREY**
(90° curve)



Art. No. **85168GREY**
(End ramp)



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"

DEFENDER[®] BOX

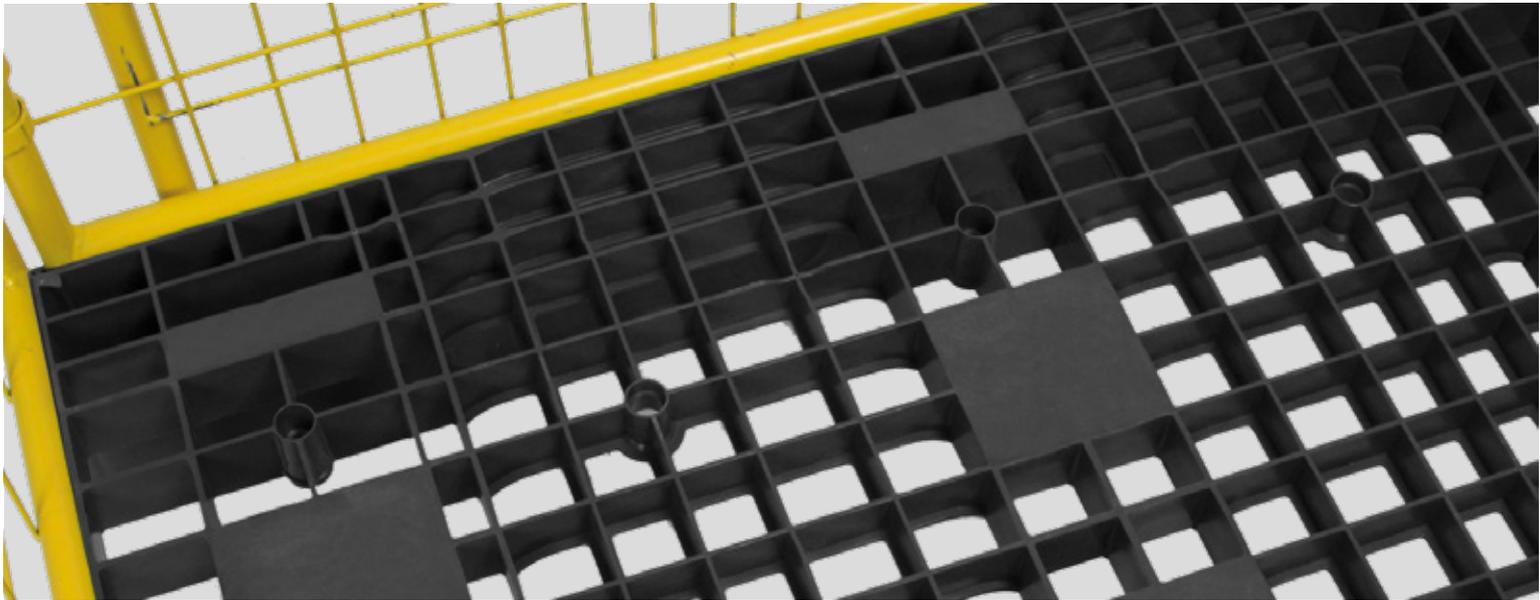
THE SMART LOGISTIC STORAGE SOLUTION

The DEFENDER[®] BOX is the ideal solution for transporting and storing DEFENDER[®] cable protection systems. The sturdy design features a EUR-pallet size base made of heavy-duty plastic and hinged steel grate sides for easy loading. For additional convenience, the DEFENDER[®] BOX is stackable and collapsible.

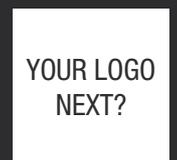
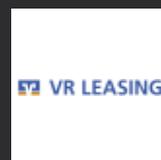
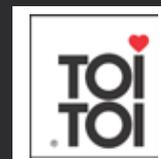
SPECIFICATIONS:

Art. No.:	85BOX
Product:	Storage and transport box
Material:	PE and steel with lacquer coating
Load capacity:	≤ 1.0 ton/2,000 lbs.
Dimensions (W x H x D):	1250 x 1285 x 840 mm / 49.2" x 50.6" x 33.1"
Weight:	50.5 kg / 111.3 lbs.

For the loading plan, see adamhall.com!



REFERENCES



DEFENDER® REGISTER

Article No.	Model Name	Description	Page
85002	3	Cable protector three-channel	20
85004	3 connector plugs / Dovetail Connector	Connector plugs for 85002 cable protector three-channel	20
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85009	3 curve	45° curve for 85002 cable protector three-channel	20
85100	Compact	Cable protector seven-channel	40
85103	Compact base	Base for 85100 cable protector five-channel	40
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85161	Office curve	90° curve for 85160 cable duct four-channel	42
85168	Office end ramp	End ramp for 85160 cable duct four-channel	42
85200	Mini	Cable protector three-channel	34
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85301	Midi 4C	Cable protector four-channel	32
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85500	XXL	Cable protector five-channel	18
85510	XXL end ramp	End ramp for 85500 cable protector five-channel	18
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869002	3 2D M	Module system for wheelchair ramp and barrier-free transition – Middle Part	22
869300	Midi 5 2D	Midi 5 2D Module System for Barrier-free Access	28
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869350	Midi 5 2D HV	Module system for wheelchair ramp and barrier-free transition – half Version	28
8690021	3 2D Ramp	Module system for wheelchair ramp and barrier-free transition – Ramp	23
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85150BLK	Nano black	Cable protector six-channel with black cap	38
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85158F	Nano end ramp female	End ramp female for 85150/85150BLK cable protector six-channel	38
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85161GREY	Office curve grey	90° curve grey for 85160 cable duct four-channel	42
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85168GREY	Office end ramp grey	End ramp grey for 85160 cable crossover four-channel	42
85168YEL	Office end ramp yellow	End ramp yellow for 85160 cable crossover four-channel	42
85200BLK	Mini black	Cable protector three-channel with black cap	34
85200LUX	Mini Lux	Cable protector three-channel LUX	35
85208F	Mini end ramp female	End ramp female for 85200/85200BLK cable protector three-channel	34
85208M	Mini end ramp male	End ramp male for 85200/85200BLK cable protector three-channel	34
85210L	Mini left	45° curve left for 85200 cable protector three-channel	34
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85300BLK	Midi black	Cable protector five-channel with black cap	26

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85301LUX	Midi 4C Lux	Cable protector four-channel LUX	33
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85307L	Side Slant left	Left extremity piece	31
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85310BLK	Midi curve black	45° curve for 85300 cable protector five-channel with black cap	27
85500LUX	XXL Lux	Cable protector five-channel LUX	19
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DEFENDER®

CABLE PROTECTION SYSTEMS

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EDITION 2021

BELTRONICA



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