

▶ **VarioLED™ Flex**
VENUS family
True Color IP67

Available 07/2018

VENUS family True Color is a LED luminaire using a new polyurethane encapsulation technology offering an IP67 ingress protection index and enables an optimum rendition of the LED spectrum (no color shift).



DESIGN PLUS
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VarioLED™ Flex VENUS Family True Color IP67 Available 07/2018

Dot free encapsulated 3D bendable LED design light line

Back in 2009, LED Linear™ launched VENUS, the first linear flexible LED luminaire for outdoor architectural lighting with a perfectly homogeneous and dot free light surface. The innovation brought by this 2 dimensions bendable light lines opened new doors in lighting design which were unreachable by any luminaires back then. VENUS rapidly gains the recognition of lighting design professionals and experts of the field as well as 9 awards & nominations. The name VENUS became a standard in the industry since - often copied, never equaled. Over the last years, LED Linear™ has gathered inputs and ideas from lighting designers, architects, engineers and contractors in order to improve VENUS and provide a new game changer to the industry. Based on this valuable guidance, we developed VENUS True Color.

VENUS True Color carries on all the features which made VENUS a worldwide success with new major benefits. VENUS True Color is a LED luminaire using a new polyurethane encapsulation technology offering an IP67 ingress protection combined with optimum rendition of the LED spectrum, avoiding any CCT shift: True Color.

It is available in 2 variants. The first named Top View takes over the applications covered by its predecessor for 2D bends perpendicular to the luminous surface. The second variant extends the boundaries of lighting design by providing a perfectly homogeneous light line which can be twisted or bent in 3 dimensions (3D) in order to follow any curves present in modern architectural concepts. Both Top View and 3D have the same cross section, intelligent cable feed and special end caps which enable a perfect luminaire to luminaire installation. Both also deliver the same light outputs which allow a perfect light line consistency. A large panel of innovative accessories enables an easy installation on every construction base (concrete, roughcast, etc.) as recessed, surface or pendant luminaire.

Overall VENUS True Color brings brand-new opportunities for lighting design with unlimited freedom. VENUS True Color is ideally suited for indoor and outdoor applications, for exceptional facade lighting and to accentuate organic shapes.





Photo: Daniel Kessler

A unique composition Polyurethane layers avoids CCT shift while guaranteeing an absolutely dot free and homogeneous light emission surface as well as seamless luminaire-to-luminaire installation.

The cavity on the backside of the hull provides space for cable routing. In combination with mounting clips or mounting channels the cables and quick connectors are invisible.

True Color Top View

True Color 3D

Revolutionary robust circuit board design allows for bending and twisting in all directions. VENUS True Color 3D. The TV variant is protected against accidental bending into the wrong direction.

Dot free 3D bendable LED design light line

Cross section	18 mm x 18 mm 0.71" x 0.71"
Length	from 280 mm 0.92' up to 5,040 mm 16.54'
Power	6 W/m - 15 W/m 1.8 W/ft - 4.6 W/ft
Luminous flux	380 lm/m - 1,210 lm/m 120 lm/ft - 370 lm/ft
Efficacy	up to 85 lm/W
Beam angle/optics	120°
Color temperature/Color	2,200 K - 5,000 K
CRI	up to 95

IP67

True Color

White





VarioLED™ Flex VENUS family True Color White IP67 Available 07/2018

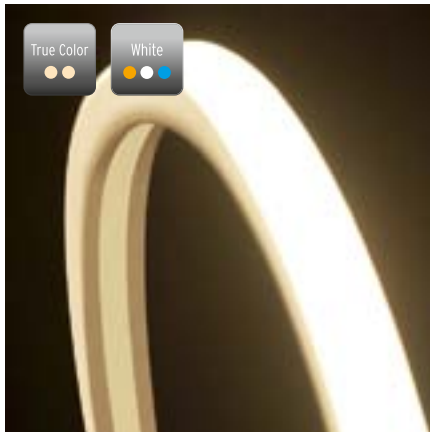
	Voltage (V)	CRI	Lumen/W (lm/W)	Watt/m / Watt/ft (W/m / W/ft)	Lumen/m ^A / Lumen/ft ^A (lm/m / lm/ft)	min. length (mm / in)	max. length (mm / ft)	Page
VENUS family True Color White Top View IP67								
VENUS TC TV	24	95	6	1,8	510 / 160	350 / 13.8	4,970 / 16.3	62
PHOBOS TC TV	24	95	10	3	820 / 250	350 / 13.8	4,970 / 16.3	
SKYLLA TC TV	24	95	15	4,6	1,210 / 370	350 / 13.8	4,970 / 16.3	
VENUS family True Color White 3D IP67								
VENUS TC 3D	24	95	6	1,8	510 / 160	490 / 19.2	1,960 / 6.4	64
PHOBOS TC 3D	24	95	10	3	820 / 250	490 / 19.2	1,960 / 6.4	
SKYLLA TC 3D	24	95	15	4,6	1,210 / 370	490 / 19.2	1,960 / 6.4	
VENUS family True Color accessories								
								66

^A White
@W850. At warmer light colors the luminous flux is reduced.



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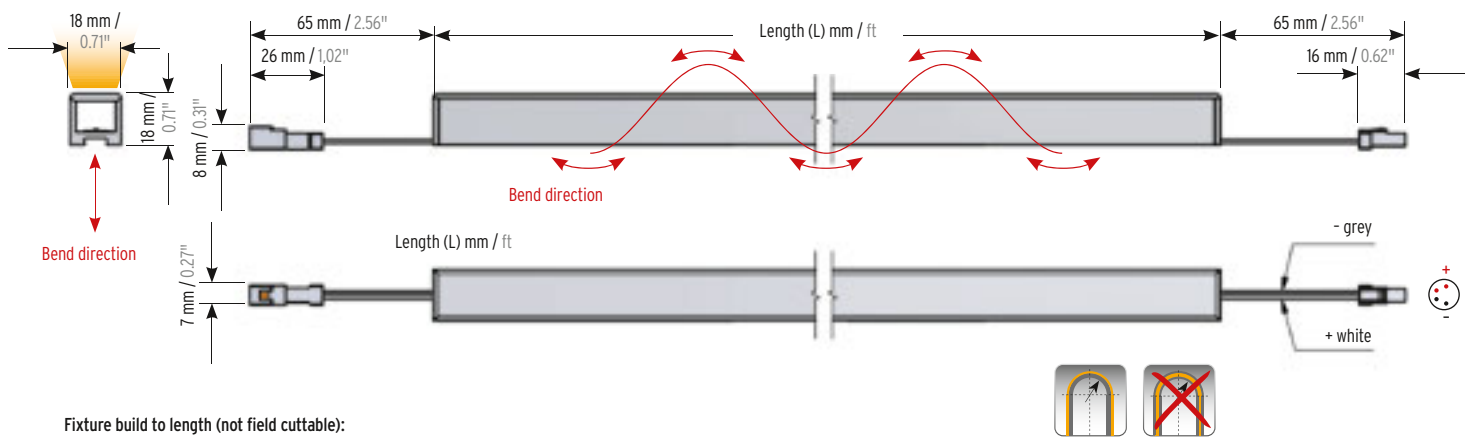
VarioLED™ Flex VENUS family True Color White TV IP67 Available 07/2018



IP67 flexible dot free and perfectly homogeneous linear LED light line with a 18 mm x 18 mm / 0.71" x 0.71" (W x H) cross section. Opal polyurethane encapsulation offering a premium water proof sealing, UV resistance, chemical stability against urban gazes and protection against abrasion. True Color technology for an optimal rendition of the LED spectrum (no color shift). Vertical bending only, with radius of 150 mm (5.9") the ideal solution for indoor/outdoor organic facade accent lighting or decorative applications requiring IP67 ingress. Freely configurable in length. Backside cable feed for an optimal fixture to fixture overlap. 65 mm (2.56") long cable at both end of the luminaire with IP67 male/female connectors. Light source assembled using state of the art automated Reel to Reel (R2R) production process supporting LED Linear™ Tj Away® thin flexible circuit board Technology.

In combination with CSP LED packages an optimal heat dissipation (junction to installation surface) is achieved which guarantees an outstanding lifetime of > 60,000 hrs L80/B10. Embeds high quality CSP LEDs with 3 step MacAdams (SDCM3) binning centered on target CCT (One Bin Only) with an extended photometric code of Wxxx/339 ensuring an exceptional color consistency over the rated lifetime. Premium color rendition with a CRI of 95 ensuring an excellent light quality. Consistent light intensity all along the strip length is obtained thanks to active current regulation operated by dedicated integrated circuits (ICs) on each step. Protected against electrostatic discharge $\pm 2,000$ V and polarity miswiring. Fully PWM dimmable for frequency > 0 Hz up to 2 kHz (flicker free for frequency higher than 1.2 kHz according to IEEE P1789 standard). Engineered and produced in Germany.

Dimensions & available lengths



Fixture build to length (not field cuttable):

L_{min} : 350 mm; L_{max} : 4,970 mm; in 70 mm increments
 L_{min} : 13.78"; L_{max} : 16.3"; in 2.76" increments

Electrical & output data

Voltage	24 Volt (23 V_{min} , 25 V_{max})	
Temperature ^B	$T_{c_{min}}$ = -20°C / -4°F, $T_{c_{max}}$ = 65°C / 149°F	
Storage temperature	$T_{s_{min}}$ = -30°C / -22°F, $T_{s_{max}}$ = 85°C / 185°F	
Ambient temperature	$T_{a_{min}}$ = -20°C / -4°F, $T_{a_{max}}$ (Table below)	
CRI / R9 @W 930	up to 95 / up to 65	
R_f / R_g @W 930	up to 95 / up to 100	

VarioLED™ Flex VENUS family True Color	VENUS TC TV	PHOBOS TC TV	SKYLLA TC TV
Power (W/m / W/ft) ^A	6 / 1.8	10 / 3	15 / 4.6
Efficacy (lm/W) ^A @ W850	85	82	81
max. serial run length (m / ft) ^C	12 / 39.4	10 / 32.8	8 / 26.2
max. Ambient temperature ($T_{a_{max}}$)	50°C / 122°F	50°C / 122°F	40°C / 104°F

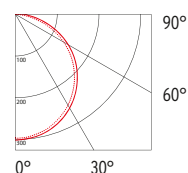
^A The given data are typical values. Due to tolerances of the production process and the electrical components, values for light output and electrical power can vary up to 10%.

^B The T_c -point should be measured in thermal equilibrium according to IEC EN 60598-1.

^C With supply voltage > 23.5 V

- ONE BIN ONLY**
- UV protected
- Lifetime
- Resistant to solvents
- L80/B10 > 60.000 h
- Saltwater resistant
- Photometric code
- LM 79 compliant
- Wxxx/339
- Temporary immersion protection
- LM 80 compliant
- True Color
- No color shift

Color temperature LED tape used ^c	Color temperature delivered finished fixture	VENUS TC TV (low output)	PHOBOS TC TV (mid output)	SKYLLA TC TV (high output)
		lumen/meter (lm/m) ^a lumen/feet (lm/ft) ^a		
● W822	2,200 K	380 / 120	620 / 190	910 / 280
● W927	2,700 K	410 / 130	650 / 200	970 / 290
● W930	3,000 K	420 / 130	670 / 200	1,000 / 310
● W935	3,500 K	430 / 130	680 / 210	1,010 / 310
● W940	4,000 K	430 / 130	700 / 210	1,030 / 310
● W850	5,000 K	510 / 160	820 / 250	1,210 / 370



DIN 5040:A40

cd/1,000 lumen

C0/C180 ————

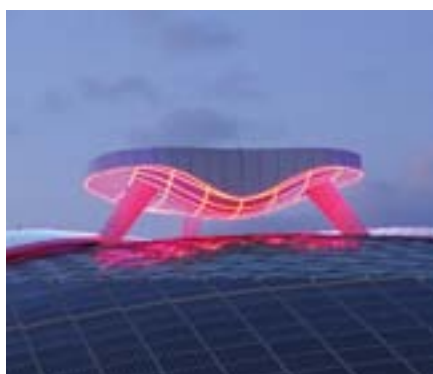
C90/C270 ······

^aThe given data are typical values. Due to tolerances of the production process and the electrical components, values for light output and electrical power can vary up to 10%.

^cIn case of IP67 products, tolerances in the color temperature can occur.

Order code

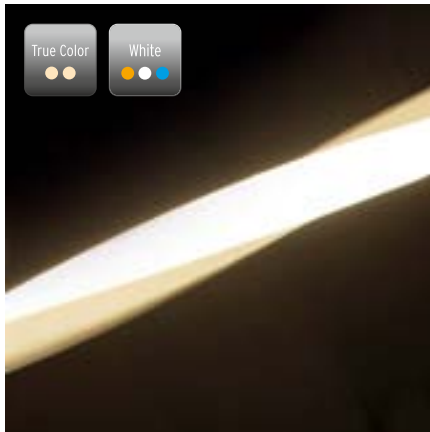
	Output	Variant	Color rendering	Color temperature	Length (mm)	Ingress protection
Your order code	VarioLED Flex _____ TC	TV	W_	__	_____	IP67
Order code example	VarioLED Flex VENUS TC	TV	W9	27	5026	IP67



Please choose your accessories

Extensions / Jumpers (optional)	Art.-#	Recommended power supply	Art.-#
<input type="checkbox"/> VarioCon Female Mini 2 x 0.34 mm ² , 2 m / 6.56' IP67	15000142	<input type="checkbox"/> Power Supply Unit IP67	16000153
<input type="checkbox"/> VarioCon Extension Mini 2 x 0.34 mm ² , 0.1 m / 0.33' IP67	15000143	Recommended control unit	Art.-#
<input type="checkbox"/> VarioCon Female Mini Protection Cap Mono IP67 ^e	15000218	<input type="checkbox"/> Control System White/IQ-White	16000268-DT6

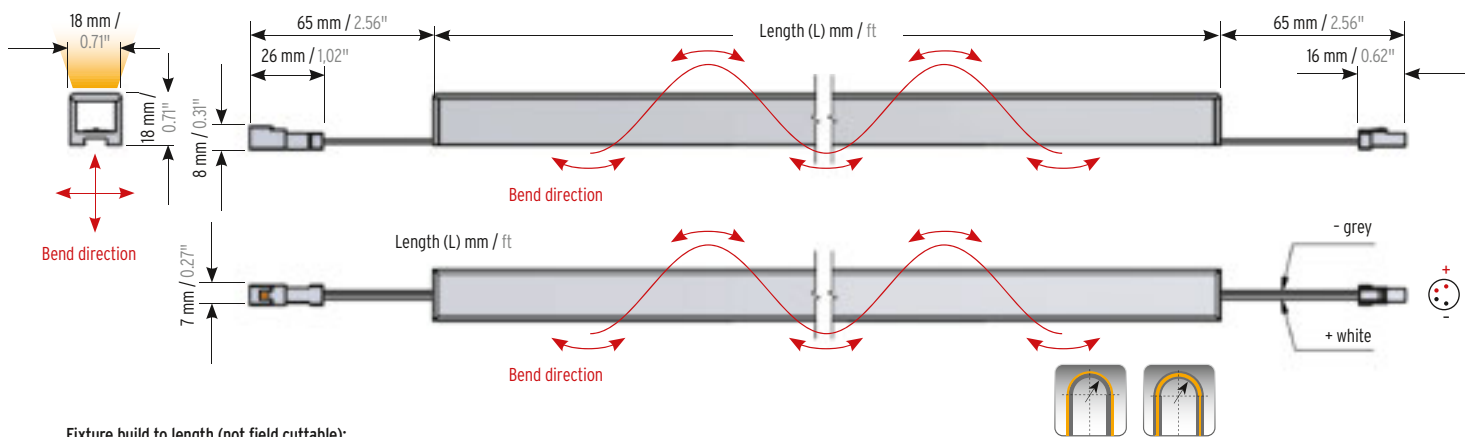
VarioLED™ Flex VENUS family True Color White 3D IP67 Available 07/2018



3D bendable IP67 flexible dot free and perfectly homogeneous linear LED light line with a 18 mm x 18 mm / 0.71" x 0.71" (W x H) cross section. Opal polyurethane encapsulation offering a premium water proof sealing, UV resistance, chemical stability against urban gazes and protection against abrasion. True Color technology for an optimal rendition of the LED spectrum (no color shift). Vertical and horizontal bending as well as twisting, with radius of 150 mm (5.9") offering the ideal solution for any indoor/outdoor organic facade geometry. Usable for accent lighting or decorative applications requiring IP67 ingress. Freely configurable in length. Backside cable feed for an optimal fixture to fixture overlap. 65 mm (2.56") long cable at both end of the luminaire with IP67 male/female connectors. Light source assembled using state of the art automated Reel to Reel (R2R) production process supporting LED Linear™ Tj Away® thin flexible

circuit board Technology. In combination with CSP LED packages an optimal heat dissipation (junction to installation surface) is achieved which guarantees an outstanding lifetime of > 60,000 hrs L80/B10. Embeds high quality CSP LEDs with 3 step MacAdams (SDCM3) binning centered on target CCT (One Bin Only) with an extended photometric code of Wxxx/339 ensuring an exceptional color consistency over the rated lifetime. Premium color rendition with a CRI of 95 ensuring an excellent light quality. Consistent light intensity all along the strip length is obtained thanks to active current regulation operated by dedicated integrated circuits (ICs) on each step. Protected against electrostatic discharge $\approx 2,000$ V and polarity miswiring. Fully PWM dimmable for frequency > 0 Hz up to 2 kHz (flicker free for frequency higher than 1.2 kHz according to IEEE P1789 standard). Engineered and produced in Germany.

Dimensions & available lengths



Fixture build to length (not field cuttable):

L_{min} : 490 mm; L_{max} : 1,960 mm; in 70 mm increments
 L_{min} : 19.2"; L_{max} : 6.4'; in 2.76" increments

Electrical & output data

Voltage	24 Volt (23 V_{min} , 25 V_{max})		
Temperature ^B	$T_{C_{min}}$ = -20°C / -4°F, $T_{C_{max}}$ = 65°C / 149°F		
Storage temperature	$T_{S_{min}}$ = -30°C / -22°F, $T_{S_{max}}$ = 85°C / 185°F		
Ambient temperature	$T_{a_{min}}$ = -20°C / -4°F, $T_{a_{max}}$ (Table below)		
CRI / R ₉ @W 930	up to 95 / up to 65		
R _v / R _g @W 930	up to 95 / up to 100		

VarioLED™ Flex VENUS family True Color	VENUS TC 3D	PHOBOS TC 3D	SKYLLA TC 3D
Power (W/m / W/ft) ^A	6 / 1.8	10 / 3	15 / 4.6
Efficacy (lm/W) ^A @ W850	85	82	81
max. serial run length (m / ft)	5 / 16.4	4 / 13.1	4 / 13.1
max. Ambient temperature ($T_{a_{max}}$)	50°C / 122°F	50°C / 122°F	40°C / 104°F

^AThe given data are typical values. Due to tolerances of the production process and the electrical components, values for light output and electrical power can vary up to 10%.

^BThe T_c -point should be measured in thermal equilibrium according to IEC EN 60598-1.

ONE BIN ONLY

Lifetime
L80/B10 > 60.000 h

Photometric code
Wxxx/339

LM 79 compliant

LM 80 compliant

True Color

No color shift

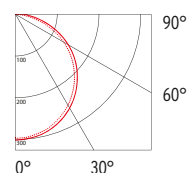
UV protected

Resistant to solvents

Saltwater resistant

Temporary immersion protection

Color temperature LED tape used ^c	Color temperature delivered finished fixture	VENUS TC 3D (low output)	PHOBOS TC 3D (mid output)	SKYLLA TC 3D (high output)
		lumen/meter (lm/m) ^a lumen/feet (lm/ft) ^a		
● W822	2,200 K	380 / 120	620 / 190	910 / 280
● W927	2,700 K	410 / 130	650 / 200	970 / 290
● W930	3,000 K	420 / 130	670 / 200	1,000 / 310
● W935	3,500 K	430 / 130	680 / 210	1,010 / 310
● W940	4,000 K	430 / 130	700 / 210	1,030 / 310
● W850	5,000 K	510 / 160	820 / 250	1,210 / 370



DIN 5040:A40
cd/1,000 lumen

CO/C180 ———
C90/C270 ·····

^aThe given data are typical values. Due to tolerances of the production process and the electrical components, values for light output and electrical power can vary up to 10%.

^cIn case of IP67 products, tolerances in the color temperature can occur.

Order code

	Output	Variant	Color rendering	Color temperature	Length (mm)	Ingress protection
Your order code	VarioLED Flex _____ TC	3D	W_	__	_____	IP67
Order code example	VarioLED Flex PHOBOS TC	3D	W9	27	1960	IP67

Please choose your accessories

Extensions / Jumpers (optional)	Art.-#	Recommended power supply	Art.-#
<input type="checkbox"/> VarioCon Female Mini 2 x 0.34 mm ² , 2 m / 6.56' IP67	15000142	<input type="checkbox"/> Power Supply Unit IP67	16000153
<input type="checkbox"/> VarioCon Extension Mini 2 x 0.34 mm ² , 0.1 m / 0.33' IP67	15000143	Recommended control unit	Art.-#
<input type="checkbox"/> VarioCon Female Mini Protection Cap Mono IP67 ^e	15000218	<input type="checkbox"/> Control System White/IQ-White	16000268-DT6



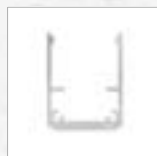
VarioLED™ Flex VENUS family True Color accessories

Surface mounted



Description VTC Surface Mounting Clip Backside Low
Art.-No. 13000275
Unit Piece (pc)
Min. OQ 10
Dimensions (L x H x W) 30 mm x 5 mm x 18 mm /
1.18" x 0.20" x 0.71"

Surface mounting clip, clinched into backside of the VENUS TC.
Material: plastic (UV stable)



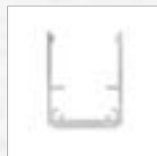
Description VTC Surface Mounting Channel high
Art.-No. 10000553
Unit 2 m (6.56')
Min. OQ 10 m (32.8')
Dimensions (L x H x W) 2 m x 26.7 mm x 20.9 mm /
6.56' x 1.05" x 0.82"

Surface mounting channel with cable raceway.
Material: Anodized Aluminum



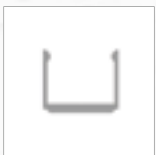
Description VTC Surface Mounting Clip Backside High
Art.-No. 13000276
Unit Piece (pc)
Min. OQ 10
Dimensions (L x H x W) 30 mm x 10.5 mm x 18 mm /
1.18" x 0.41" x 0.71"

Surface mounting clip, clinched into backside of the VENUS TC,
integrated cable routing. Material: plastic (UV stable)



Description VTC Flexible Pendant Channel
Art.-No. 10000554
Unit 2 m (6.56')
Min. OQ 2 m (6.56')
Dimensions (L x H x W) 2 m x 26.7 mm x 20.9 mm /
6.56' x 1.05" x 0.82"

Segmented channel for curvatures, 2 pendant sets (13000274)
needed per meter. Material: Anodized Aluminum



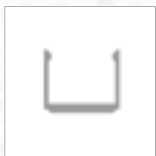
Description VTC Surface Mounting Clip Low
Art.-No. 13000277
Unit Piece (pc)
Min. OQ 10
Dimensions (L x H x W) 30 mm x 17.5 mm x 20.9 mm /
1.18" x 0.69" x 0.82"

Surface mounting clip without cable raceway.
Material: Anodized Aluminum



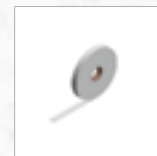
Description VTC Surface Holding Clamp Clear
Art.-No. 13000279
Unit Piece (pc)
Min. OQ 10
Dimensions (L x H x W) 15 mm x 20.2 mm x 52.8 mm /
0.59" x 0.80" x 2.08"

Surface mounting clip. Material: transparent plastic (UV stable)



Description VTC Surface Mounting Channel Low
Art.-No. 10000552
Unit 2 m (6.56')
Min. OQ 10 m (32.8')
Dimensions (L x H x W) 2 m x 17.5 mm x 20.9 mm /
6.56' x 0.69" x 0.82"

Surface mounting channel without cable raceway.
Material: Anodized Aluminum



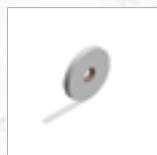
Description VTC TV Adhesive Tape for Surface Mounting
Art.-No. 18200135
Unit Meter (m)
Min. OQ 50 m / 164'
Dimensions 50 m x 18 mm / 164' x 0.71"

High quality 3M adhesive tape suitable for most glossy or rough
surfaces.



Description VTC Surface Mounting Clip high
Art.-No. 13000278
Unit Piece (pc)
Min. OQ 10
Dimensions (L x H x W) 30 mm x 26.7 mm x 20.9 mm /
1.18" x 1.05" x 0.82"

Surface mounting clip with cable raceway.
Material: Anodized Aluminum



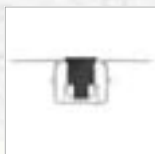
Description VTC 3D Adhesive Tape for Surface Mounting
Art.-No. 18200136
Unit Meter (m)
Min. OQ 50 m / 164'
Dimensions 50 m x 15 mm / 164' x 0.59"

High quality 3M adhesive tape suitable for most glossy or rough
surfaces.

NEW

VarioLED™ Flex VENUS family True Color accessories

Plaster in / Dry wall



Description VTC Trimless Plaster In Profile (2 m / 6.56' Set) (With 6 x Mounting Clip & 2 m / 6.56' Silicone Dummy)

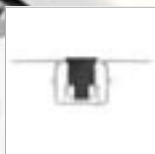
Art.-No. 10000555

Unit 2 m (6.56') as Set

Min. OQ 5 Sets

Dimensions (L x H x W) 2 m x 32.2 mm x 97.3 mm / 6.56' x 1.27" x 3.83"

Trimless plaster profile, including dummy for plaster works and 6 mounting clips. Material: Aluminum (plaster channel), plastic (clip)



Description VTC Flexible Trimless Plaster In Profile (2 m / 6.56' Set) (With 6 x Mounting Clip & 2 m / 6.56' Silicone Dummy)

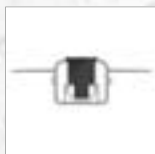
Art.-No. 10000556

Unit 2 m (6.56') as Set

Min. OQ 5 Sets

Dimensions (L x H x W) 2 m x 32.2 mm x 97.3 mm / 6.56' x 1.27" x 3.83"

Flexible trimless plaster profile, including dummy for plaster works and 6 mounting clips. Material: Aluminum (plaster channel), plastic (clip)



Description VTC Flush Mounted Profile (2 m / 6.56' Set) (With 6 x Mounting Clip & 2 m / 6.56' Silicone Dummy Profile)

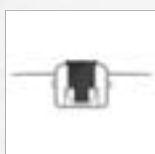
Art.-No. 10000557

Unit 2 m (6.56') as Set

Min. OQ 5 Sets

Dimensions (L x H x W) 2 m x 32.2 mm x 97.3 mm / 6.56' x 1.27" x 3.83"

Plaster profile for flush mounting, including dummy and 6 mounting clips. Material: Aluminum (plaster channel), plastic (clip)



Description VTC Flexible Flush Mounted Profile (2 m / 6.56' Set) (With 6 x Mounting Clip & 2 m / 6.56' Silicone Dummy Profile)

Art.-No. 10000558

Unit 2 m (6.56') as Set

Min. OQ 5 Sets

Dimensions (L x H x W) 2 m x 32.2 mm x 97.3 mm / 6.56' x 1.27" x 3.83"

Flexible plaster profile for flush mounting, including dummy and 6 mounting clips. Material: Aluminum (plaster channel), plastic (clip)

Recessed



Description VTC Recessed Profile (2 m / 6.56' Set) (With 3 x Mounting Spring & Flexible Snap on Cover Strips)

Art.-No. 10000559

Unit 2 m (6.56') as Set

Min. OQ 5 Sets

Dimensions (L x H x W) 2 m x 46 mm x 36.3 mm / 6.56' x 1.81" x 1.43"

Recessed mounting channel including mounting springs and decorative cover strips for trim Material: Aluminum



Description VTC Flexible Recessed Profile (2 m / 6.56' Set) (with 6 x mounting spring & flexible snap on cover strips)

Art.-No. 10000560

Unit 2 m (6.56') as Set

Min. OQ 5 Sets

Dimensions (L x H x W) 2 m x 46 mm x 36.3 mm / 6.56' x 1.81" x 1.43"

Flexible recessed mounting channel including mounting springs and decorative cover strips for trim Material: Aluminum



Description VTC EndCap Recessed (Set of 2)

Art.-No. 11000214

Unit Set

Min. OQ 1 pc

Dimensions (L x H x W) 22 mm x 34.5 mm x 36.3 mm / 0.87" x 1.81" x 1.43"

End cap set for recessed mounting channel.

Pendant



Description VTC Pendant Set for Flexible Pendant Profile (2 m / 6.56' Wire)

Art.-No. 13000273

Unit Set

Min. OQ 5 Sets

Dimensions 2 m / 6.56'

Pendant set for flexible pendant channel (1000554), at least 2 pendant sets per meter required, 2 m (6.56') steel rope.



Description VTC Pendant Set for Flexible Pendant Profile (5 m / 16.4' Wire)

Art.-No. 13000274

Unit Set

Min. OQ 5 Sets

Dimensions 5 m / 16.4'

Pendant set for flexible pendant channel (1000554), at least 2 pendant sets per meter required, 5 m (16.4') steel rope.