



# PVC-U CONDUIT AND FITTINGS

## MANUFACTURED TO BRITISH STANDARDS



# PVC-U CONDUIT AND FITTINGS

## MARSHALL TUFFLEX

Marshall-Tufflex is the UK's leading manufacturer of cable management solutions producing a wide range of PVC-U conduit and trunking systems to a worldwide market.

Based in Hastings, East Sussex, Marshall-Tufflex was established in 1942 and is recognised for quality, consistency, reliability and innovation.

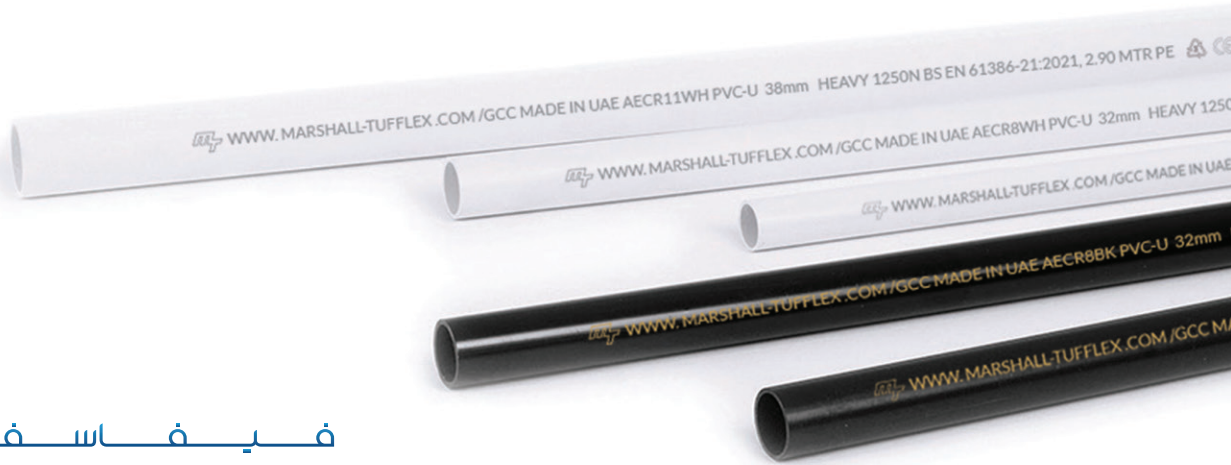


### British Standards

BS EN IEC 61386-21:2021+A11:2021

Products are manufactured in KEZAD, Abu Dhabi to Marshall-Tufflex's high specification and standards.





**Marshall-Tufflex has partnered with Vivasvaan Industrial Co. to manufacture conduit for the GCC region. From its factory in KEZAD, Abu Dhabi the company has an active presence in all Emirates in addition to Oman, Qatar, Bahrain, Saudi Arabia and Jordan.**



Vivasvaan Industrial Co. manufacture black and white conduit and fittings between 20mm and 50mm together with surface and flush mounted boxes.





# 4 | Conduit and Fittings

## ROUND CONDUIT AND FITTINGS

Round conduit made from super high impact self-extinguishing PVC-U.

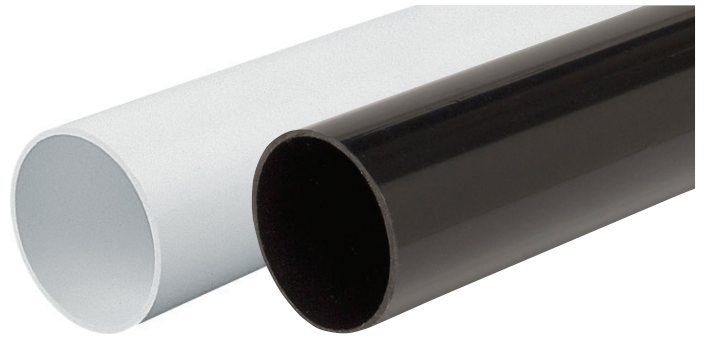
### Product information

#### Conduit

- Light, medium or heavy gauge options
- Meet requirements for BS 4607, BS EN 61386-1:2008+A1:2019, BS EN 61386-21:2021+A11:2021 and BS EN 61386-25:2011 where applicable

#### Boxes

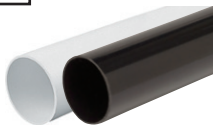
- Provision for MET1 brass earth terminal
- All boxes have threaded brass inserts



Standard Colours	
WH	BK
WH: White BK: Black	

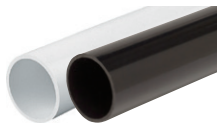
Colour code suffix: to indicate the finish you require, add the required colour code to the end of the product code.

### Round conduit



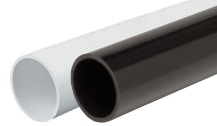
#### Light gauge

code	O.D	pack
AECR2	20mm	20 x 2.9m
AECR3	25mm	20 x 2.9m
AECR4	32mm	10 x 2.9m
AECR9	38mm	10 x 2.9m
AECR10	50mm	5 x 2.9m



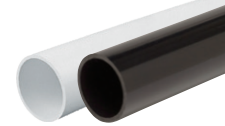
#### Medium gauge

code	O.D	pack
AECR14	20mm	20 x 2.9m
AECR16	25mm	20 x 2.9m
AECR18	32mm	10 x 2.9m
AECR20	38mm	10 x 2.9m
AECR22	50mm	5 x 2.9m



#### Heavy gauge

code	O.D	pack
AECR6	20mm	20 x 2.9m
AECR7	25mm	20 x 2.9m
AECR8	32mm	10 x 2.9m
AECR11	38mm	10 x 2.9m
AECR12	50mm	5 x 2.9m



#### LSF heavy gauge

code	O.D	pack
AECR6LS	20mm	20 x 2.9m
AECR7LS	25mm	20 x 2.9m
AECR8LS	32mm	10 x 2.9m
AECR11LS	38mm	10 x 2.9m
AECR12LS	50mm	5 x 2.9m

### Round conduit contractor packs\*

code	O.D	pack
AECR2	20mm	5000 x 2.9m
AECR3	25mm	3000 x 2.9m
AECR4	32mm	1800 x 2.9m
AECR9	38mm	1300 x 2.9m
AECR10	50mm	750 x 2.9m

code	O.D	pack
AECR14	20mm	5000 x 2.9m
AECR16	25mm	3000 x 2.9m
AECR18	32mm	1800 x 2.9m
AECR20	38mm	1300 x 2.9m
AECR22	50mm	750 x 2.9m

code	O.D	pack
AECR6	20mm	5000 x 2.9m
AECR7	25mm	3000 x 2.9m
AECR8	32mm	1800 x 2.9m
AECR11	38mm	1300 x 2.9m
AECR12	50mm	750 x 2.9m

code	O.D	pack
AECR6LS	20mm	5000 x 2.9m
AECR7LS	25mm	3000 x 2.9m
AECR8LS	32mm	1800 x 2.9m
AECR11LS	38mm	1300 x 2.9m
AECR12LS	50mm	750 x 2.9m

\*Lengths in bundles then placed within a wooden frame pallet.

### Socketed end round conduits

code	O.D	pack
AECR2SK	20mm	20 x 2.9m
AECR3SK	25mm	20 x 2.9m
AECR4SK	32mm	10 x 2.9m
AECR9SK	38mm	10 x 2.9m
AECR10SK	50mm	5 x 2.9m

code	O.D	pack
AECR14SK	20mm	20 x 2.9m
AECR16SK	25mm	20 x 2.9m
AECR18SK	32mm	10 x 2.9m
AECR20SK	38mm	10 x 2.9m
AECR22SK	50mm	5 x 2.9m

code	O.D	pack
AECR6SK	20mm	20 x 2.9m
AECR7SK	25mm	20 x 2.9m
AECR8SK	32mm	10 x 2.9m
AECR11SK	38mm	10 x 2.9m
AECR12SK	50mm	5 x 2.9m

code	O.D	pack
AECR6LSSK	20mm	20 x 2.9m
AECR7LSSK	25mm	20 x 2.9m
AECR8LSSK	32mm	10 x 2.9m
AECR11LSSK	38mm	10 x 2.9m
AECR12LSSK	50mm	5 x 2.9m

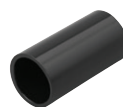
### Round conduit fittings



#### Expansion couplers

code	size	pack
AEMEC2	20mm	25
AEMEC3	25mm	10

Should be fitted over a clear gap between two round rigid conduits



#### Straight couplers

code	size	pack
AEMC2	20mm	100
AEMC3	25mm	60
AEMC4	32mm	25
AEMC5	38mm	10
AEMC6	50mm	10



#### Reducers

code	size	pack
MR2 <sup>†</sup>	25 x 20mm	50

<sup>†</sup>Currently not being produced in UAE. Imported from Marshall-Tufflex.

## Round conduit fittings



### Inspection elbows

code	size	pack
MIE2†	20mm	20

For 25mm size use  
Inspection Bend



### Inspection bends

code	size	pack
MIB2†	20mm	20
MIB3†	25mm	20



### Inspection tees

code	size	pack
MIT2†	20mm	20
MIT3†	25mm	20



### Plain bends

code	size	pack
AEMNB2	20mm	100
AEMNB3	25mm	60
AEMNB4	32mm	25
AEMNB5	38mm	10
AEMNB6	50mm	5

## Round conduit fittings



### Adaptors (Female thread)

code	size	pack
AEMAB2	20mm	100
AEMAB3	25mm	75
AEMAB4	32mm	25
AEMAB5	38mm	15
AEMAB6	50mm	10



### Adaptors (Male thread)

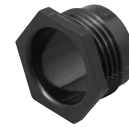
code	size	pack
MA7†	20mm	100
MA8†	25mm	50



### Adaptors (Clip-in spout)

code	size	pack
MCA2†	20mm	100

Not available in black



### Male bushes

code	size	pack
AEMMB2	20mm	100
AEMMB3	25mm	100
MMB4†	32mm	25
MMB5†	38mm	10
MMB6†	50mm	10



### Threaded lockrings

code	size	pack
MLR2†	20mm	100
MLR3†	25mm	50



### Round 'U' clips

code	size	pack
MMC2†	20mm	100
MMC3†	25mm	50
MMC4†	32mm	25



### Strap saddles

code	size	pack
AEMSS2	20mm	100
AEMSS3	25mm	100
MSS4†	32mm	50
MSS5†	38mm	25



### Spacer bar saddles

code	size	pack
AEMSB2	20mm	100
AEMSB3	25mm	100
AEMSB4	32mm	50
AEMSB5	38mm	10
AEMSB6	50mm	10



### Spacer bar snap saddle

code	size	pack
MSBS2†	20mm	100



### Threaded cable gland

code	size	cable size	pack
MCG2†	20mm	ø7-10.5	100
MCG3†	25mm	ø8-13	25



### Locknuts (for use with cable glands)

code	size	pack
MLN2†	20mm	100
MLN3†	25mm	25
MLN4†	32mm	10



### Plain body cable gland

code	conduit	cable size	pack
MCGP2†	20mm	ø7-10.5	25

Not available in black



### Conduit to mini adaptor

code	size	pack
TAC1/2†	20mm	20

Not available in black

†Currently not being produced in UAE. Imported from Marshall-Tufflex.

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## Circular boxes



### Loop-in boxes

code	size	pack
AE2MRB12	4 x ø20mm KO	20
AE3MRB12	2 x ø25mm KO	20
AE4MRB12	1 x ø20mm + 1 x ø25mm KO	20



### Terminal 1-way

code	size	pack
AE2MRB2	20mm	20
AE3MRB2	25mm	20



### Through 2-way

code	size	pack
AE2MRB3	20mm	20
AE3MRB3	25mm	20

### Circular boxes

PVC-U plain bored circular boxes are suitable for suspending loads of up to 3kg centrally at 60°C maximum. Fixing centres are at 50.8mm and fitted with M4 brass inserts.



### Angle 2-way

code	size	pack
AE2MRB4	20mm	20
AE3MRB4	25mm	20



### Tee 3-way

code	size	pack
AE2MRB5	20mm	20
AE3MRB5	25mm	20



### Intersection 4-way

code	size	pack
AE2MRB6	20mm	20
AE3MRB6	25mm	10



### Branch 3-way or Y

code	size	pack
AE2MRB14	20mm	20
AE3MRB14	25mm	20



### Twin through way or H

code	size	pack
AE2MRB15	20mm	20
AE3MRB15	25mm	20



### Branch 2-way or U

code	size	pack
AE2MRB13	20mm	20
AE3MRB13	25mm	20

## Circular box fittings



### Circular rubber gasket

code	size	pack
AEMRG1	66mm diam	100

Black only



### Circular lids

code	size	pack
AEMCL1	flush fitting (65mm diam)	100
MCL2†	overlapping (85mm diam)	100

## Adaptable boxes



### IP66 Rating

### Adaptable boxes

code	external size	pack
MTAB75A†	81 x 81 x 67mm	10
MTAB100A†	106 x 106 x 67mm	10
MTAB150B†	155 x 155 x 92mm	4

Available in black or white

†Currently not being produced in UAE. Imported from Marshall-Tufflex.

## Surface mounted



### 1 gang – square corners

code	depth	pack
AEMSSB17	32mm	20

### 2 gang – square corners

code	depth	pack
AEMSSB23	32mm	10

All standard surface mounted boxes have a combination of 16x16mm, 25x16mm and 20mm knockouts

## Flush mounted



### 1 gang

code	depth	pack
AEMSSB1	35mm	20

Entries: 2 x ø20mm on each of 4 sides

### 2 gang

code	depth	pack
AEMSSB3	35mm	10

Entries: 3 x ø20mm and 1 x ø25mm on horizontal sides, 2 x ø20mm on vertical sides

### Surface and flush mounted boxes

#### Surface mount boxes

1 gang = 87 x 87mm with 60.3 fixing centres  
2 gang = 147 x 87mm with 120.6 fixing centres

#### Flush mount boxes

1 gang = 74 x 74mm with 60.3 fixing centres  
2 gang = 134 x 74mm with 120.6 fixing centres

## Cover plates



### 1 gang – flat

code	depth	pack
MSCP2†	2mm	20

Size: 86 x 86mm

### 2 gang – flat

code	depth	pack
MSCP3†	2mm	10

Size: 86 x 146mm  
Not available in black

## Accessories



### Bending spring heavy gauge (green end)

code	conduit size	pack
MBSH2†	20mm	1
MBSH3†	25mm	1
MBSH4†	32mm	1
MBSH5†	38mm	1
MBSH6†	50mm	1

### Bending spring light gauge (white end)

code	conduit size	pack
MBSL2†	20mm	1
MBSL3†	25mm	1
MBSL4†	32mm	1

### PVC pipe cutter

code	pack
MTPC42†	1

### Brass earthing terminal

code	rating	pack
MET1†	15Amp	100



### Conduit solvent cement

code	pack
AEMSC	1 x 250ml

### Flexible conduit

code	size	pack
CC2000	20mm	1 x 50
CC2500	25mm	1 x 50

Available in black or white

†Currently not being produced in UAE. Imported from Marshall-Tufflex.

# **TECHNICAL, MATERIAL DATA AND GENERAL INFORMATION**



## Material

PVC-U is flame retardant and self-extinguishing. It provides a 100% recyclable material with good sustainability.

## Fitting

- Secure horizontal runs of conduit at a maximum distance of 0.9m.
- Secure vertical runs of conduit at a maximum of 1.2m.
- In areas of high ambient temperature or where rapid changes in temperature are likely, these distances should be reduced.
- Where there are fittings or directional changes, the conduit should be secured approximately 150mm either side to maintain support.
- Avoid over-tightening to permit thermal movement.

## Joints and bends

- To accommodate thermal movement on surface installations, it is recommended that expansion couplers be used at a maximum distance of 6m intervals.
- In areas of high ambient temperature or where rapid changes in temperature are likely, this distance should be reduced.
- To install an expansion coupler, coat the inside of the short side with solvent cement and push firmly over the conduit down to the stop point.
- Slide the next length of conduit into the long side of the coupler. (As a guide insert in approximately only 50mm.) DO NOT GLUE INTO PLACE. This will permit expansion or contraction of the conduit, providing it is free to move in the saddles.

## Bends

Care should be taken not to make too tight a bend and attention is drawn to BS 7671:2018 Section 522.8.3 of the Wiring Regulations. The radius of every bend in a wiring system shall be such that conductors and cables shall not suffer damage.

## Cold bending 20-25mm conduit

Cold bending may be carried out on all conduit sizes up to 25mm in diameter using the correct size and gauge of bending spring.

- Heavy gauge spring is colour-banded green at the tip.
- Light gauge spring is colour-banded white at the tip.
- Springs are not interchangeable.
- Make sure springs are not damaged in any way as this can fracture or kink the conduit making removal of the spring difficult.
- In cold weather, warm the conduit by rubbing with a rag before bending.

### To bend the conduit:

- Insert the spring to the desired position, grip the conduit on either side of bend and bring slowly together to form the bend.
- Cold bending of 20mm and 25mm conduit should be done with correct / undamaged spring inserted and bent over knee to initiate bend. Spring should remain inserted until the desired angle is achieved. (Under no circumstance should bends be increased or decreased without correct spring inserted).

Failure to follow above procedure could increase possibility of product failure.

- Make the bend more acute than necessary to allow for PVC-U to 'recover' after bending.
- To remove the spring, twist anticlockwise (to reduce its diameter) whilst turning the conduit clockwise and gently pulling the conduit and the spring apart.
- If spring fails to release, do not pull too hard or damage to the spring may occur.
- Repeat the removal procedure until they come apart. The conduit should then be fastened into position to prevent further 'recovery' of the bend.

## Earthing

The properties of PVC-U make it an all insulated system and the use of a separate earth cable is essential.

## Sealant

Solvent cement AEMSC is a slow acting solvent cement especially formulated for watertight conduit fittings. In accordance with COSHH Regulations, details of our solvents are entered in The National Poison Centre computer records. Health & Safety data sheets are available from [www.marshall-tufflex.com](http://www.marshall-tufflex.com)

## PVC-U material data

Marshall-Tufflex cable management products are manufactured in Extra Super High Impact PVC-U grade material, capable of withstanding the most hazardous conditions on site and which exceeds the most stringent requirements of the British Standards.

### Characteristics

Specific gravity		1.42
Co Efficient of Linear Expansion		$7 \times 10^{-5}/m^{\circ}C$
Water Absorption		Negligible
Electric Strength		To the requirements of BS EN 50085
Fire Performance	BS 476 PT6 & PT7 BS EN 50085 UL94 BS EN 61386-1 BS 4607	CLASS 1 PASS V-0 @1.6mm PASS PASS
Oxygen Index		42%
Tensile Strength		492/562 kg/cm <sup>2</sup>
Insulation Resistance		To the requirements of BS 4607, BS EN 50085, BS EN 61386-1
Chemical Resistance		See below
Vicat Softening Point (conduit & trunking)		80°C BS EN ISO 306
Vicat Softening Point (moulded fittings)		76°C BS EN ISO 306

### Chemical resistance

The material is virtually unaffected by solutions of inorganic acids, alkalis and salts and is resistant to many organic chemicals. It may be softened by some organic materials such as ketones and aromatic compounds. It will not corrode. For further details on chemical resistance to a wide range of chemicals please visit [www.marshall-tufflex.com](http://www.marshall-tufflex.com)

### Fire resistance

The material used in Marshall-Tufflex conduit is self-extinguishing and complies with the requirements of BS 476 Parts 6 and 7 and BS 4678. Non-flame propagating to BS EN 50085 and BS EN 61386-1.

(See Characteristics table above)

### Thermal properties

Marshall-Tufflex conduit is designed to accommodate variations of ambient temperature equating to 5.25mm/3m for a temperature rise of 25°C.

Operating temperatures: -5°C to +60°C.

Thermal conductivity: 0.19 w/m/°C.

### Conduit Impact resistance

High impact resistance. The material is formulated to comply with the -5°C Heavy Gauge Requirements of BS EN 61386-1.

### Standards

Conduit systems comply with the requirements of BS 4607-5:1982+A3:2010, BS EN 61386-1:2008 and BS 4607-1:1984+A2:2010.

## Marshall-Tufflex Lsf (Low Smoke & Fume) Conduit & Accessories

Marshall-Tufflex offer a high-quality range of LSF conduit and accessories, manufactured by Vivasvaan Industrial Co, KEZAD, Abu Dhabi.

LSF heavy gauge conduit exceeds the most stringent requirement of the British Standards to ensure that in the event of a fire, the emission of smoke and fume is much lower than standard PVC-U conduit and accessories.

### Characteristics

Material	Rigid PVC-Modified
Smoke Emission / HCL Emission	ASTM E 662 / IEC 60754-1
LOI (ASTM 2836)	50% O2
UL 94 (Underwriters Laboratory)	V0 PASSED
Flammability	Self Extinguishing
VICAT Softening Temperature	86 °C
Coefficient Of Linear Expansion	$5.0 \times 10^{-5}/^{\circ}C$
Impact Resistance	To The Requirement Of BS EN 61386-21
Chemical Resistance	Resistant To Solutions Of Inorganic Acids Alkalis And Salts. Not Affected By Most Organic Chemicals Except Ketones And Certain Aromatic Compounds
Mechanical And Electrical Properties	To The Requirements Of BS EN 61386-21

## Health and Safety at work

### Health and Safety at work etc. Act 1974

1. Section 6 of this act imposes on all manufacturers, designers, importers or suppliers of articles for use at work a duty to ensure, so far as is reasonably practicable, that the article is so designed and constructed that it will be safe and without risks to health at all times when it is being set, used, cleaned or maintained by a person at work. Part 1 of the Consumer Protection Act 1987 introduces strict liability for defects in products. In considering whether a product is defective, consideration has to be given to any instructions issued with the products. It is therefore essential that the purchasers ensure that any relevant information or advice relating to the use of the product is strictly complied with.
2. Having regard to these provisions the following is given as a guide to the information which is readily available to you in order that the obligations of all concerned may be met as fully as is reasonably practicable. This information relates to those products detailed in our Catalogue(s) or associated literature.
3. Information on the design, construction and installation of our products may be found in catalogues and product leaflets of this Company, or may be obtained by specific request to the Company.
4. It is important that the products concerned should be installed, commissioned and maintained by, or under supervision of competent persons in accordance with:
  - BS7671 IEE Regulations for the Electrical Equipment of Buildings
  - Codes of Practice
  - Statutory requirements

Any instruction specifically advised by the Company The Purchaser must satisfy himself that he has complied with such requirements.
5. In accordance with the provisions of the Act you are therefore requested to take such steps as are necessary to ensure that any appropriate information relevant to our products is made available by you to anyone concerned.

## General information

### Low Voltage Directive

Marshall-Tufflex products that come within the scope of the Low Voltage Directive (LVD) will be UKCA Marked to confirm that they meet the necessary requirements of this directive.

### Product colour

The colour of products shown in this catalogue are representative only.

**Please note:** due to different processes and materials utilised, it may not always be possible to obtain an exact colour match between the extruded and moulded product.

### Unexposed parts

Unexposed parts may not always be supplied in the colours depicted in this catalogue. This will not detract in any way from the finished look of the product.

### Continuous improvement

In pursuance of our policy of continued product improvement Marshall-Tufflex reserves the right to change the design, specification or pack quantities of its products without notification.

### Lead Free Factory

Marshall-Tufflex PVC-U conduits are produced in a manufacturing facility that operates without the use of lead in its production processes, materials, and products. Lead is a toxic metal that can have detrimental effects on human health and the environment. Therefore, lead-free factories prioritize the elimination of lead-containing substances from their operations to ensure the safety of workers, consumers, and the surrounding ecosystems.

## Storage of PVC-U Conduit

### Transportation of PVC-U Conduit

Marshall-Tufflex PVC-U Conduit is very robust, but still can be damaged by rough handling. Conduit should not be thrown from trucks or dragged over rough surfaces. Plastic conduit becomes more susceptible to damage in very cold weather so extra care should be taken when the temperature is low. Since the soundness of any conduit joint depends on the condition of the spigot and the socket, special care should be taken not to allow them to come in to contact with sharp edges or protruding nails or made oval by poor storage.

### Storage of PVC-U Conduit

Conduit should be adequately supported at all times. Conduit should be stacked in layers with sockets placed at alternate ends of the stack and with the sockets protruding. Horizontal support of about 75mm wide should be spaced not more than 1.0m centre-to-centre beneath the conduits to provide even support. Vertical side supports should also be provided at intervals of 2m along rectangular conduit stacks.

For long term storage (longer than 3 months) the maximum free height should not exceed 1.0m. The heaviest conduit should be on the bottom. The crates used for delivery are adequate for long term storage provided additional bearers (approx. 75mm wide) are placed under the conduits between the crate frames.

### Transportation of PVC-U Conduit

While in transit, conduit should be well secured and supported. Chains or wire ropes may be used only if suitably padded to protect the conduit from damage. Care should be taken that the conduit is firmly tied so that the sockets cannot rub together. Conduit may be unloaded from vehicles by forklift, care being taken to ensure that the conduit does not fall onto each another or onto any hard or uneven surface.

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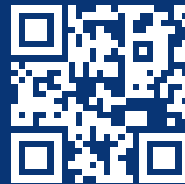
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Factory Video



Catalogue



Tech. Data Sheets

