



# Installation Instructions

Twin walled Cable Ducts

**FXKVS and FXKVR**

Local standards for pipe laying works may deviate in some details or may give additional requirements and shall be considered and followed anyway.

### Transport and storage

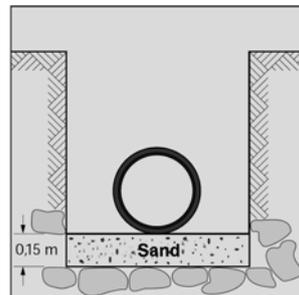
The cable ductings are a valuable product and shall be treated with care. Conduits shall never be thrown from transport devices, when stored this shall be done on a plain surface, a stack of loose conduits shall not exceed a height of 1.5 meters.

Coloured conduits shall not be stored in open unshaded areas as the influence of intensive sunlight may cause colour fading and degradation of the quality of the product.

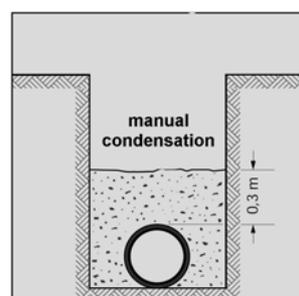
### Laying the conduits in the ground

On the basis of the trench a layer of fine sand shall be made in a thickness of approx. 0,15 m.

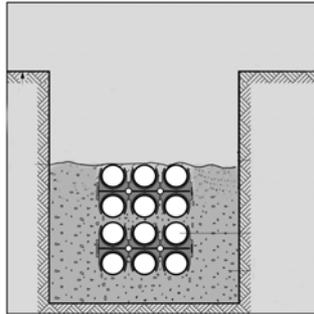
This is especially important in areas with very stony or craggy ground.



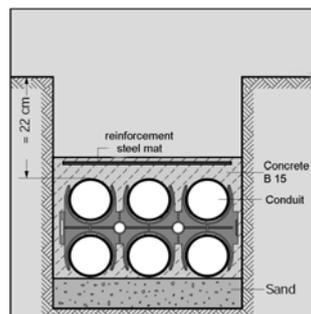
When the conduit(s) are positioned correctly, the trench shall be refilled with sand with a maximum particle size of 20mm and carefully condensed. The area directly on top of the conduit shall be condensed manually up to a height of 0,30 m above the top of the conduit.



When laying more than one layer of conduits each layer has to be refilled and condensed separately, the next layer is then put on top of the finished layer. If necessary the conduit shall be secured in their position by means of conduit spacers type KSA. The distance between spacers shall not exceed 1.5 meters.



In case the top layer of conduits is less than 0,50 m below the final street surface, additional measurements have to be taken to distribute the traffic load like putting the conduits in concrete or to refill the trench with a mixture of concrete and sand. When putting the conduits in concrete watertight joints have to be used.



## Jointing

### Sandtight joints

The coupler and the end of the conduit shall be cleaned from dirt and sand, the conduit shall be inserted into the coupler to the stop.

### Watertight joints

The coupler and the end of the conduit shall be cleaned from dirt and sand, the rubber sealing ring has to be mounted onto the conduit end (preferably in the “valley” of the second corrugation).

Sealing ring and coupler are lubricated with a suitable gliding agent and then the conduit shall be inserted into the coupler to the stop.

## Bending radii

The conduit can be bent to achieve a change of direction. Bending radii shall not be too tight, allowing enough room to insert a cable, the minimum bending radius of the used cable has to be taken into account anyway!

As a rough guideline a minimum bending radius of approx. 25 x the outside diameter for FXKVS and approx. 8 x the outside diameter for FXKVR should be calculated.

Conduit type "S"	minimum bending radius
FXKVS 50	1.3
FXKVS 63	1.6
FXKVS 75	1.9
FXKVS 90	2.3
FXKVS 110	2.8
FXKVS 125	3.1
FXKVS 140	3.5
FXKVS 160	4.0
FXKVS 175	4.4
FXKVS 200	5.0

Conduit type "R"	minimum bending radius
FXKVR 50	0.4
FXKVR 63	0.5
FXKVR 75	0.6
FXKVR 90	0.6
FXKVR 110	0.8
FXKVR 125	1.0
FXKVR 140	1.1
FXKVR 160	1.3
FXKVR 175	1.4
FXKVR 200	1.6

## Pulling in the cable

FXKVR is delivered with a pulling wire, this wire **has to be loosend before unrolling the conduit, otherwise it will break!**

However, this wire is only suitable for drawing in the cable pulling device and is not intended to be used to pull in the cable!

Pulling forces and -length depend on local situation and used materials and can vary in a wide range.

Basic influence is given from:

- the routing of the conduit
- the Cable material
- the Difference in height
- the Gliding agent
- the Inner diameter of the conduit in relation to the cable diameter