

IS 9537  
Part-3

**konseal**®

From an ISO Certified  
manufacturing  
Company



**Tough.  
Resilient.**

- PVC Trunking
- PVC Wiring Pipes
- PVC Channels
- PVC Fittings



Only virgin PVC goes into the making of **konseal**<sup>®</sup> - offering better quality, better fire resistance, better shock resistance and 100% recyclable, thus making it environment friendly.

## Tough. Resilient.

The **konseal**<sup>®</sup> range of high quality PVC products are brought to you by one of South India's top manufacturing houses. **konseal**<sup>®</sup> specializes in PVC Wiring Pipes, Fittings, PVC Channels and PVC Trunking.

**konseal**<sup>®</sup> has become the product of choice for responsible engineers and quality conscious end-users alike. With its highly organised network of dealers, it is not surprising that **konseal**<sup>®</sup> rules for wide spread availability, reliability and affordability. Like the material that **konseal**<sup>®</sup> dedicates itself to PVC, the company has proven itself to be tough enough to withstand market pressures - and resilient enough to adapt to all kinds of market conditions.





**konseal**<sup>®</sup>  
 PVC TRUNKING | PVC WIRING PIPES  
 PVC CHANNELS | PVC FITTINGS

# konseal<sup>®</sup> PVC Conduits. Shock-proof your life.



**konseal**<sup>®</sup> PVC Conduits conforming to IS:9537 are perfect for electrical applications, because of PVC's resistance to breakdown under high electrical voltage.

It is also a poor conductor of electricity. **konseal**<sup>®</sup> range of conduits are resistant to weathering, chemical rotting, corrosion, shock and abrasion. Manufactured on fully automated machines, **konseal**<sup>®</sup> PVC Conduits are made of impact modifying, insulating compounds, mixed at 140° C in high speed mixers. With stringent quality control measures in place, it is no wonder that the product meets BIS Standards and is  certified.

## **konseal**<sup>®</sup> PVC Conduit Specifications:

Size	Outside Diameter	Tolerance on outer Diameter	Inside Diameter			Wall Thickness			Standard Length (Meters)
			Light	Medium	Heavy	Light	Medium	Heavy	
16	16mm	-0.3mm	13.7 mm	13mm	122mm	1.0mm	1.35mm	1.75mm	3
20	20mm	-0.3mm	17.4mm	16.9mm	15.8mm	1.15mm	1.4mm	1.95mm	3
25	25mm	-0.4mm	22.1mm	21.4mm	20.6mm	1.25mm	1.6mm	2.0mm	3
32	32mm	-0.4mm	28.6mm	27.8mm	26.6mm	1.5mm	1.9mm	2.5mm	3
40	40mm	-0.4mm	35.8mm	35.4mm	344mm	1.9mm	2.1mm	2.6mm	3
50	50mm	-0.5mm	45.1mm	44.3mm	43.2mm	2.2mm	2.6mm	3.15mm	3
63	63mm	-0.6mm	57.0mm	-	-	2.7mm	-	-	3

## **konseal**<sup>®</sup> PVC Conduits - Packing quantity per bundle

Item	Meters	Lengths
16 mm	450	150
20mm	300	100
25mm	150	50
32mm	75	25
40mm	75	25

## Periodical Quality Tests

	Name of test	Nature of test
	Test of marking	The marking shall be indelible by petroleum sprit.
	Test of inner diameter	The inner diametre shall be verified by means of a GO gauge
	Test of minimum outer diameter	The minimum outer diameter shall be measured by means of a NO GO gauge.
	Test of maximum outer diameter	The maximum OD shall be measured by means of a GO gauge.
	Resistance to burning	When subject to a high intensity flame for 30 seconds, the conduit shall not burn by itself, after removing the flame.
	Resistance to heat	The Conduit is subjected to 60°C in a hot air oven and the resistance to heat is measured by means of the testing apparatus.
	Compression test	Force in the range of 125 N to 1250 N is applied depending on the class of conduit by means of the compression test apparatus. The dimensions should comply with the standards after release of compression pressure.
	Bending test	Bending test is conducted, by bending with the aid of spring and test apparatus, to 180 degrees. No cracks should appear after the test. Samples, which are cooled up to -5°C are also subject to the same test
	Insulation test	The conduits are tested for insulation at minimum 500 mega ohms.
	High voltage test	The conduits are subject to 2000 V AC by means of the test apparatus. No break down shall occur during the test.

## Recognition for Quality



# BUREAU OF INDIAN STANDARDS

(Ministry of Consumer Affairs, Food & Public Distribution, Government of India)

Kerala Branch Office



## Approvals

**konseal**<sup>®</sup> has won approvals from Government departments like | PWD (Govt. of Kerala) | CPWD (Govt. of India) | Directorate General of Supplies & Disposal (Govt of India) | Indian Railways | BSNL | Military Engineering Service | Cochin Port Trust | Cochin International Airport Ltd. (CIAL) | Cochin Shipyard

Various associations like | Kerala Electric Traders Association (KETA) | Kerala Electric Wiremen and Supervisors Association (KEWSA) | AKLSWA and ESLWA too have recommended **konseal**<sup>®</sup>

### ISO Certification

Tubes & Tubings has become an ISO Certified unit in October 2004. Certification was done by Intertek Certifications Limited, UK under UKAS accreditation, which is one of the prestigious accreditation boards worldwide.

### Conduit Installation - Methods Surface Installation

In surface installation, the conduit is fixed using saddles or spacer bar saddles. The maximum recommended spacing between the saddles is 1.0 m for the horizontal conduit runs and 1.25 m for vertical conduit runs. Saddles should be fixed 20 cm on either side of bends or boxes. As PVC conduit expands, with increasing temperatures, for expansion/contraction movements in long straight runs, the use of an expansion coupling is recommended every 6 m to absorb expansion and avoid conduit buckling.

# Bending

Bending of conduit up to 25 mm diameter can be carried out cold, using the correct bending spring size, according to the diameter and the gauge of the conduit. After inserting, the bend can be made by hand or across the knee, by bending slightly beyond the required angle, and allow the conduit to recover back to the required position. The bending should not be done too fast and once made a bend should not be forced backwards, as this action can lead to conduit or spring damage. According to IEE regulations, the bend inner radius should not be less than 2.5 times the conduit's outside diameter.

For conduit sizes over 25 mm diameter, hot bending is required with the same procedure as cold bending, but with the application of gentle heat just before bending. No open flame should be used for heating, rather a hot air torch or hot water. Once the conduit is warm, it can be bent around a suitable former and held there until it cools down and sets in position.



Conduit bending with the aid of spring and test apparatus.

Bending Spring

# Pure and Perfect

## konseal® PVC Conduit Fittings

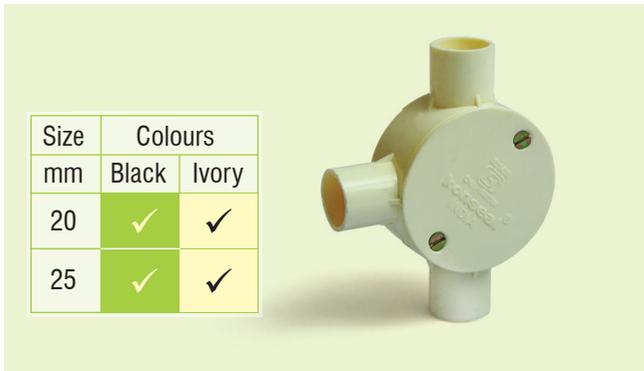
**konseal®** range of PVC conduit fittings conforming to IS : 3419 are manufactured in 100% PVC, that too virgin. Hence these fittings are 100% safe, durable and resistant to fire and electric shock. They also withstand temperature up to 60 degree Celsius and voltage up to 2000 Volts.

**konseal®** Junction Boxes are fitted with rust free stainless steel screws. These features make **konseal®** PVC Conduit Fittings perfect and incomparable.

 **Spout type Circular Box - One way (with lid)**  **Spout type Circular Box - Two way (with lid)**



 **Spout type Circular Box - Three way (with lid)**  **Spout type Circular Box - Four way (with lid)**



 **Spout type Circular Box (DEEEP)**

**ONE WAY (WITH LID)**



**TWO WAY (WITH LID)**



# konseal® PVC Conduit Fittings

## Spout type Circular Box (DEEEP)

**THREE WAY (WITH LID)**

Size mm	Colours	
	Black	Ivory
20	✓	✓
25	✓	✓



**FOUR WAY (WITH LID)**

Size mm	Colours	
	Black	Ivory
20	✓	✓
25	✓	✓



**ELBOW**

Size mm	Colours	
	Black	Ivory
20	✓	✓
25	✓	✓



**TEE**

Size mm	Colours	
	Black	Ivory
20	✓	✓
25	✓	✓



## SLIP TYPE COUPLING BENDS AND SHORT BENDS ADAPTOR



Size mm	Colours	
	Black	Ivory
16	✓	✓
20	✓	✓
25	✓	✓
32	✓	✓
40	✓	



Size mm	Colour
	20
25 x 20	Black

# Get connected and protected!

## konseal® PVC Channels & Trunking



**konseal®**



### PVC TRUNKING WITH DOUBLE LIFE

- Features:
- Made of 100% virgin PVC
  - Suitable for A/c pipe ducting
  - 100x50 mm designed for fixing switches easily
  - Suitable for all cabling solutions

Available Sizes: • 100x50 mm • 50x50 mm • 38x38 mm

Unightly computer cables, intercom and EPABX cabling can be securely and aesthetically routed through **konseal®** range of PVC channels and trunking manufactured to international standards. **konseal®** PVC Channels and Trunking are long lasting, working efficiently. These channels and trunking offer the snap locking facility and withstands temperature up to 60° C and Voltage up to 2000 volts. They are also fire and impact resistant. All these features make **konseal®** PVC Channels and trunking extra ordinarily special.

**konseal®** PVC Channels are available in sizes of 12x20mm, 12x25mm, 12x32mm, 16x38mm and 16x50mm

CHANNELS		
Size (mm)	Standard Length (mtrs)	PCS / Pack
12 x 20	2.00	150
12 x 25	2.00	100
12 x 32	2.00	50
16 x 38	2.00	50
16 x 50	2.00	40

## **konseal® PVC Channels & Trunking with perfect locking system**

### **Dimension - Channels**



12 x 20mm



12 x 25mm



12 x 32mm

### **Dimension - Trunking**



38 x 38mm



50 x 50mm



100 x 50mm

## **Description**

**konseal®** Channels & Trunking consist of clip-on lid. It is fitted to the body simply by pressing it along its front face. The lid is removed by lifting it from the body at one end and then simply peeling it away. The lid closing mechanism is designed to give a securely closed installation, yet easily accessible for maintenance or modifications. International standards stipulate a maximum of 45% of the inside space of channels and trunking that can be occupied by cables.

### **Fixing**

Holes are drilled on the base of the body. It is mechanically fixed to the desired surface using flat head screws. The distance between the fixing

centres should not be more than 40 cm. And it should be not more than 15 cm from the end of a straight run.

### **Jointing**

A fine toothed tenon saw and mitre block should be used to cut the channels and trunking. This will ensure accurate clean cuts, leading to an easy and efficient installation. In all straight joints, it is important to stagger the joints of the channel and trunking body and lid to give a better protection and reduce joint visibility. On straight runs longer than 6 m, allowance for expansion must be made. For corners, the channels and trunking must be mitred and for T-joints it must be slotted for cable entry.

## Our client list:

- Asset Homes
- Cochin International Airport Ltd.
- Cochin Port Trust
- Cochin Shipyard
- Crescent Builders, Calicut
- CPWD. Govt. of India
- Godrej and Boyce
- Kannur International Airport Ltd.
- KITCO
- Landmark Builders, Calicut
- Malabar Cancer Centre, Thalassery
- Matha Amrithanandamayi Math
- Naval Base, Cochin
- PWD. Govt. of Kerala
- Ramada Hotel, Trivandrum
- RDS Projects Ltd.
- Skyline Builders
- Southern Railway

*This list is not comprehensive*

## Excelling in all arenas - Our sister concerns include:

### Lakshmi Polymers

Manufacturers of PVC Garden Hoses.

### Chloroplast

Manufacturers of Shakthiman Super PVC Pipe Fitting.

[www.shakthimansuper.com](http://www.shakthimansuper.com)

### Millennium Rubber Technologies (P) Ltd.

Manufacturers of Rubber Rice Rollers &  
Moulded Automobile Components.

[www.mrtpl.in](http://www.mrtpl.in)

### Centre for Research and Consultancy

Management consultancy and Marketing Research

[www.crckochi.com](http://www.crckochi.com)

### Shakthiman Extrusions Pvt. Ltd.

Manufacturers of Shakthiman Super PVC Pipes

[www.shakthimansuper.com](http://www.shakthimansuper.com)



# **konseal**<sup>®</sup>

PVC Trunking | PVC Wiring Pipes  
PVC Channels | PVC Fittings

 **TUBES & TUBINGS**  
AN ISO CERTIFIED COMPANY

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Edappally PO., Cochin - 682 024, Kerala. Tel: 0484-2808308 / 2808708 / 2808908

**Factory:** Akanad, Mudakuzha PO., Ernakulam - 683 546, Kerala. Tel: 0484-2649708 / 2649808 / 2641608

**konseal PVC Profiles Pvt. Ltd.**

**Factory:** Plot No 10, INKEL Business Park, Angamaly, Ernakulam - 683 573, Kerala.

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