

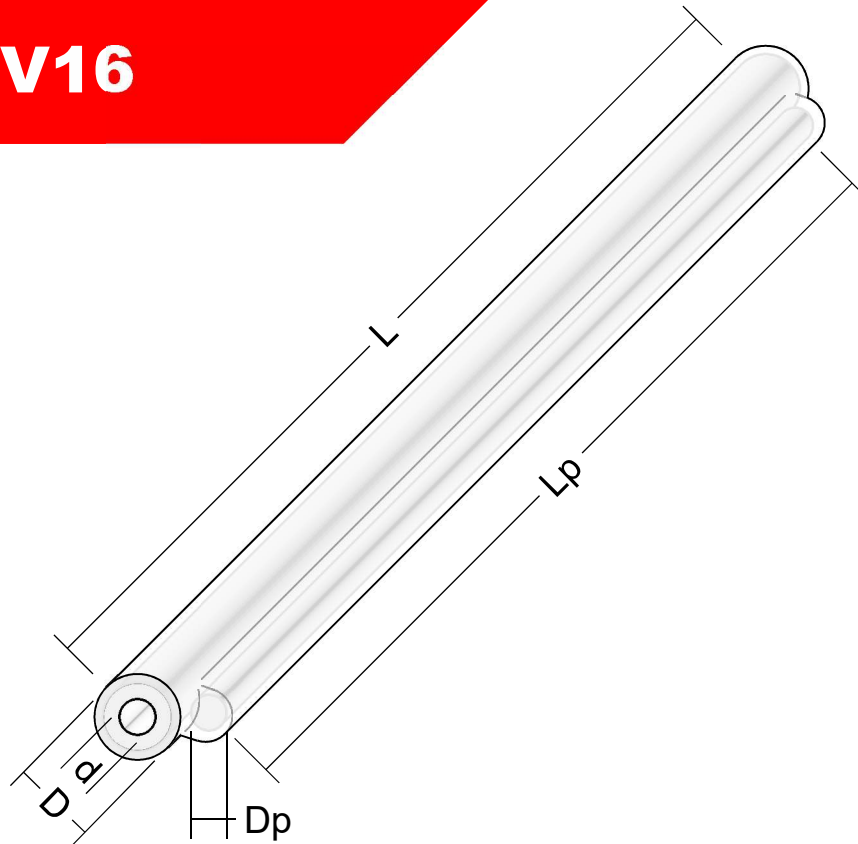
# v-protect

fiber optic splice protectors

Heat Shrink Fiber  
Optic Splice Protectors

## Series V16

TECHNICAL DATA SHEET



Part no.	D	L	d	Dp	Lp
V16-20-XX	1,6	20	1,0	0,75	20
V16-25-XX	1,6	25	1,0	0,75	21
V16-30-XX	1,6	30	1,0	0,75	26
V16-35-XX	1,6	35	1,0	0,75	31
V16-40-XX	1,6	40	1,0	0,75	36
V16-45-XX	1,6	45	1,0	0,75	41
V16-50-XX	1,6	50	1,0	0,75	46
V16-55-XX	1,6	55	1,0	0,75	51
V16-60-XX	1,6	60	1,0	0,75	56
V16-61-XX	1,6	61	1,0	0,75	57

All dimensions in mm. Other lengths are available on request.

D – Outer diameter after recovery  
L – Length after recovery  
d – Hole diameter before recovery  
Dp – Pin diameter  
Lp – Pin length  
XX – Color

### AVAILABLE COLORS

00 – transparent

### SOLID COLORS

01 – black      07 – blue  
02 – brown      08 – purple  
03 – red      09 – grey  
04 – orange      10 – white  
05 – yellow      11 – pink  
06 – green      12 – turquoise

### TRANSPARENT COLORS

51 – black      57 – blue  
52 – brown      58 – purple  
53 – red      59 – grey  
54 – orange  
55 – yellow      61 – pink  
56 – green      62 – turquoise

# Series V16

## Heat Shrink Fiber Optic Splice Protectors

V16 SMALL series sleeves were constructed to meet the requirements of telecommunication systems' integrators, making use of solutions with a large density of connections. Small size and quickness of assembly are the main advantages of this solution. Excellent climatic and thermal properties make it ideal for use in closed as well as open spaces. The main goals during design phase were: full protection of the fiber optic splices, small size after recovery and short assembly time. Initial shrinking of the outer tube was taken into account during the production process to reduce the gap between the tubes.



This protects the internal tube and Pin from falling out as well as facilitates entering the optical fiber to hole. The final product is checked to meet the requirements set by the EN 50411-3-3 European Standard and GR-1380-CORE American Standard and ZN-96TPSA-006 standard of Polish Telecommunications. The sleeves we produce offer full protection to the fiber optic splices. They do not cause additional insert losses, and they offer protection against mechanical damage, pollution and weather conditions.

V16 series is characterized by small external diameter ( $D=1.6\text{mm}$  after recovery), reduced length (the shortest  $L=20\text{mm}$ ), quickness of assembly (below 40s). The sleeve consist of: a  $0.75\text{mm}$  diameter PIN, a thin external tube and an internal tube with a  $1.0\text{mm}$  hole. The protectors are dedicated to primary coated  $250\mu\text{m}$  (fiber) or secondary coated  $900\mu\text{m}$  (buffer). The internal tube is made from special material with good adhesion to many materials and low solubility in water. It changes its consistency to semi-liquid in growth temperatures. It enables to eliminate air bubbles through filling up the spaces between the external tube, the Pin and fiber optic cable. The Pin that stiffens the splice is made from steel with a heat extensibility indicator identical to that of an optical fiber. This prevents from longitudinal stresses on the splice during heating process. Longitudinal stresses of the splice influence on growth an insert loss and a reflection loss. In extreme cases they may cause breaking the connection, which makes it necessary to repeat the splice procedure. External tube material guarantees sustainability and resistance to stretching and puncture. It offers optimal air permeability, high gloss and smooth surface.

## ▣ Properties

- » Outer diameter after recovery:  $1,6\text{mm} \pm 0,2\text{mm} *$
- » Hole diameter before recovery:  $1,0\text{mm} \pm 0,1\text{mm} *$
- » Length of the protector after recovery:  $L \pm 2/-1\text{mm} *$
- » Pin diameter:  $0,75\text{mm}$
- » Minimum installation temperature:  $110\text{ }^\circ\text{C}$
- » Max installation time: 60 sekonds
- » Standard color: transparent
- » RoHS compliant
- » Packing: 100pcs packed to one zip-bag (other packing method are available on request)

\* – Tolerances in accordance with the requirements of EN 50411-3-3

## ▣ Application

- » Fiber Optic Solution
- » Telecommunication, INTERNET
- » CATV, Cable TV, Monitoring
- » Industry
- » LAN, MAN, WAN, FTTx

# Series V16

## Heat Shrink Fiber Optic Splice Protectors

### ▣ Packing

- » The carton contains 1000 pcs fiber optic splice protectors. Standard packing consists of 10 zip bags with 100pcs of protectors each.

Other packaging methods are available on request.



### ▣ Environmental Specification

- » Storage temperature and humidity: from - 40 to +60°C, from 0 to 95%RH
- » Transport temperature and humidity: from - 40 to +80°C, from 0 to 95%RH
- » Installation temperature and humidity: from - 40 to +90°C, from 0 to 95%RH (no dew)
- » Operation temperature and humidity (after shrink): from - 55 to +105°C, from 0 to 95%RH

### ▣ References

#### Protectors meet the requirements of the following standards:

##### EN 50411-3-3 European standard:

- » Criterion 8.3.1: EN 61300-3-3; Change in attenuation: 1310&1550nm  $\delta IL \leq \pm 0,1dB$  per circuit of 5 protected fusion splices
- » Criterion 8.3.3: EN 61300-1-1; Vibration: 10-50Hz, amplitude 0,75mm, 15 cycles, 1550nm  $\delta IL \leq \pm 0,2dB$  durin -,  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices
- » Criterion 8.3.5: EN 61300-2-5, Torsion: magnitude of load 2N, rotation angle +/- 180°, 10 cycles, 1310&1550&1625nm  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices,
- » Criterion 8.3.6: EN 61300-2-4, Fiber/Cable retention: magnitude of load 2N, 60s, 1 cycle, 1310&1550&1625nm  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices,
- » Criterion 8.3.7: EN 61300-2-7, Bending: magnitude of load 2N, 5s, 1 cycle, 1310&1550&1625nm  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices,
- » Criterion 8.3.8: EN 61300-2-17, Cold: -40°C, 96h, 1310&1550nm  $\delta IL \leq \pm 0,2dB$  durin -,  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices
- » Criterion 8.3.9: EN 61300-2-18, Dry heat: +80°C 96h, 1310&1550nm  $\delta IL \leq \pm 0,2dB$  durin -,  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices
- » Criterion 8.3.10: EN 61300-2-19, Damp heat: from +25°C to +55°C, 93%Rh, 4 cycles, 96h 1310&1550nm  $\delta IL \leq \pm 0,2dB$  durin -,  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices
- » Criterion 8.3.11: EN 61300-2-22, Change of temperature: from -40°C to +70°C, 12 cycles, 68h, 1310&1550nm  $\delta IL \leq \pm 0,2dB$  durin -,  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices
- » Criterion 8.3.12: EN 61300-2-26; Salt mist: concentration NaCl 5%, +35°C 96h 6.5+7.2PH, 1 cycle, 1310&1550&1625nm  $\delta IL \leq \pm 0,1dB$  after - per circuit of 5 protected fusion splices, additionally, there are no noticeable significant differences in the appearance of the tested product, such as traces of rust, discoloration, deformation.