



# QT II Cold Shrink Termination for medium voltage polymeric cables 6/10 kV up to 18/30 kV

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## 1. Product Description

The QT II- kits are designed of non-skirted and skirted (4, 6 and 8 skirts) silicone rubber terminations for Indoor and Outdoor applications. The termination assemblies consist of a Silicone insulator and a built-in refractive stress control tube. The complete assembly is pre-stretched and loaded onto a removable step-core, which can be recycled. Each kit contains all the necessary components for three phases.

## 2. Applications

These termination kits are designed to be installed on single and three core wire screened, non-armoured polymeric insulated cables for voltages up to 18/30 kV ( $U_m = 36$  kV).

## 3. Typical Properties

The one-piece design of the Cold Shrink Termination is made from high quality silicone material. This guarantees a long life span and excellent tracking resistance for cable ends.

The terminations are made for continuous operating temperatures of 90°C and an emergency overload rating of 130°C.

### 3.1 Performance Tests

Meets and exceeds International and European standards, like IEC, CENELEC, VDE, BS. Type Test reports are available on request.

3M Italia srl  
Electrical Market Division  
Via Norberto Bobbio, 21  
20096 Pioltello (Milano)  
Italy

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## 4. User Information

### 4.1 Selection Guide



#### QT II

#### Cold Shrink kits for single core applications 6/10 kV (8,7/15 kV) Indoor Termination

For compression cable lugs according DIN 46329

Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable Jacket (mm)	Max Installation length <sup>1</sup> (mm)	Application Range <sup>2</sup> (mm <sup>2</sup> )	
				Indoor 6/10 kV	Indoor 8,7/15 kV
92-EB 60-1	11,2 - 16,5	23	190 + lug	16 - 25	-
92-EB 61-1	14,2 - 22,1	28	220 + lug	35	25
92-EB 62-1	15,9 - 30,0	18,0 - 37,0	265 + lug	50-150	35-120
92-EB 63-1	22,6 - 41,4	25,0 - 50,0	255 + lug	185-500	150-400
92-EB 64-1	27,3 - 49,3	29,0 - 60,5	265 + lug	300-630	240-500
92-EB 65-1	31,5 - 61,5	18,0 - 37,0	245 + lug	500-1000	400-800
<b>With Pfisterer mechanical cable lugs included</b> (mounting hole up to 240 mm <sup>2</sup> =13 mm, equal or greater than 300 mm <sup>2</sup> =16,5 mm)					
92-EB 62-1ML	15,9 - 30,0	18,0 - 37,0	320	70-95	50-95
92-EB 62-1-1ML	15,9 - 30,0	18,0 - 37,0	380	95-150	150
92-EB 63-1ML	22,6 - 41,4	25,0 - 50,0	350	185-500	150-400
92-EB 64-1ML	27,3 - 49,3	29,0 - 60,5	380	300-630	240-500
92-EB 65-1ML	31,5 - 61,5	18,0 - 37,0	395	500-1000	400-800



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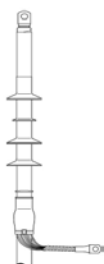
#### Cold Shrink kits for three core applications 6/10 kV (8,7/15 kV) Indoor Termination

For compression cable lugs according DIN 46329

Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable Jacket max (mm)	Max Installation length <sup>1</sup> (mm)	Application Range <sup>2</sup> (mm <sup>2</sup> )	
				Indoor 6/10 kV	Indoor 8,7/15 kV
92-EB 61-3	14,2 - 22,1	60	550 + lug (compact: 370 + lug)	35-70	25-50
92-EB 62-3	16,5 - 22,1	78	560 + lug (compact: 380 + lug)	70-95	50-70
92-EB 63-3	15,9 - 30,0	78	560 + lug (compact: 380 + lug)	120-150	95-120
92-EB 64-3	22,6 - 41,4	107	600 + lug (compact: 420 + lug)	185-300	150-240

<sup>1</sup> Installation length – from connection point up to the end of the termination

<sup>2</sup> Application ranges can be different depending on cable dimensions



## QT II

**Cold Shrink kits for single core applications**  
**6/10 kV (8,7/15 kV) Outdoor Termination**  
**12/20 kV (24 kV) Indoor Termination**

For compression cable lugs according DIN 46329

Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable Jacket (mm)	Skirt Diameter (mm)	Max Installation length <sup>1</sup> (mm)	Application Rang <sup>2</sup> (mm <sup>2</sup> )		
					Outdoor 6/10 kV	Outdoor 8,7/15 kV	Indoor 12/20 kV
93-EB 62-1	16,0 - 28,5	23,0 - 35,0	68	245 + lug	50-150	35-120	25-95
93-EB 63-1	21,3 - 35,0	30,0 - 44,0	70	245 + lug	150-300	120-240	70-240
93-EB 64-1	27,0 - 45,7	35,0 - 52,0	82	255 + lug	300-630	240-500	185-500
93-EB 65-1	33,0 - 53,3	41,0 - 65,0	90	300 + lug	500-1000	400-1000	400-1000

### With Pfisterer mechanical cable lugs included

(mounting hole up to 240 mm<sup>2</sup>=13 mm, equal or greater than 300 mm<sup>2</sup>=16,5 mm)

93-EB 62-1ML	16,2 - 28,4	23,0 - 35,0	68	300	70-95	35-95	25-95
93-EB 62-1-1ML	16,2 - 28,4	23,0 - 35,0	68	370	70-150	50-120	25-95
93-EB 63-1ML	21,3 - 35,0	30,0 - 44,0	70	340	185-240	95-240	95-240
93-EB 64-1ML	27,4 - 45,7	35,0 - 52,0	82	370	300-400	240-400	240-400
93-EB 65-1ML	33,3 - 53,3	41,0 - 65,0	90	455	500-630	500-630	400-630



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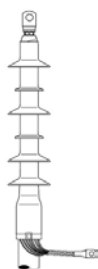
**Cold Shrink kits for three core applications**  
**6/10 kV (8,7/15 kV) Outdoor Termination**  
**12/20 kV (24 kV) Indoor Termination**

For compression cable lugs according DIN 46329

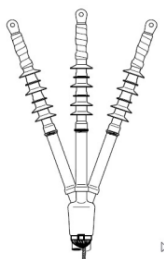
Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable Jacket max (mm)	Skirt Diameter (mm)	Max Installation length <sup>1</sup> (mm)	Application Range <sup>2</sup> (mm <sup>2</sup> )		
					Outdoor 6/10 kV	Outdoor 8,7/15 kV	Indoor 12/20 kV
93-EB 61-3	16,0 - 28,4	60	68	550 + lug	50-70	35-50	25-35
93-EB 62-3	16,0 - 28,4	78	68	560 + lug	95-150	70-120	50-120
93-EB 63-3	21,3 - 35,0	107	70	600 + lug	185-300	150-240	120-240

<sup>1</sup> Installation length – from connection point up to the end of the termination

<sup>2</sup> Application ranges can be different depending on cable dimensions

**QT II****Cold Shrink kits for single core applications****12/20 kV (24 kV) Outdoor Termination****18/30 kV (36 kV) Indoor Termination****For compression cable lugs according DIN 46329**

Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable Jacket (mm)	Skirt Diameter (mm)	Max Installation length <sup>1</sup> (mm)	Application Range <sup>2</sup> (mm <sup>2</sup> )	
					Outdoor 12/20 kV	Indoor 18/30 kV
94-EB 62-1	16,0 - 28,5	23,0 - 35,0	70	325 + lug	25-95	25-50
94-EB 63-1	21,3 - 35,0	30,0 - 44,0	70	325 + lug	70-240	50-150
94-EB 64-1	27,0 - 45,7	35,0 - 52,0	80	345 + lug	185-500	120-300
94-EB 65-1	33,0 - 53,3	41,0 - 65,0	90	395 + lug	400-1000	240-500
<b>With Pfisterer mechanical cable lugs included</b> (mounting hole up to 240 mm <sup>2</sup> =13 mm, equal or greater than 300 mm <sup>2</sup> =16,5 mm)						
94-EB 62-1ML	16,0 - 28,5	23,0 - 35,0	70	380	25-95	25-50
94-EB 63-1ML	21,3 - 35,0	30,0 - 44,0	70	420	95-240	50-150
94-EB 64-1ML	27,0 - 45,7	35,0 - 52,0	80	445	240-300	120-300
94-EB 65-1ML	33,0 - 53,3	41,0 - 65,0	90	545	400-630	400-500

**QT II****Cold Shrink kits for three core applications****12/20 kV (24 kV) Outdoor Termination****18/30 kV (36 kV) Wet Indoor Termination****For compression cable lugs according DIN 46329**

Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable Jacket max (mm)	Skirt Diameter (mm)	Max Installation length <sup>1</sup> (mm)	Application Range <sup>2</sup> (mm <sup>2</sup> )	
					Outdoor 12/20 kV	Indoor 18/30 kV
94-EB 61-3	16,2 - 24,4	60	70	570 + lug	25-35	-
94-EB 62-3	16,2 - 28,4	78	70	580 + lug	50-120	25-50
94-EB 63-3	21,3 - 35,0	107	70	620 + lug	120-240	25-150
94-EB 64-3	27,0 - 45,7	107	80	620 + lug	-	95-240

<sup>1</sup> Installation length – from connection point up to the end of the termination<sup>2</sup> Application ranges can be different depending on cable dimensions



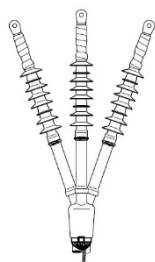
## QT II

### Cold Shrink kits for single core applications

#### 18/30 kV (36 kV) Outdoor Termination

For compression cable lugs according DIN 46329

Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable Jacket (mm)	Skirt Diameter (mm)	Max Installation length <sup>1</sup> (mm)	Application Range <sup>2</sup> (mm <sup>2</sup> )
					Outdoor 18/30 kV
94-EB62-2	21,3 - 35,0	30,0 -44,0	70	455 + lug	50-150
94-EB63-2	27,0 - 45,7	35,0 -52,0	82	485 + lug	120-240
94-EB64-2	33,0 - 53,3	41,0 -65,0	90	525 + lug	240-630
<b>With Pfisterer mechanical cable lugs included</b> (mounting hole up to 240 mm <sup>2</sup> =13 mm, equal or greater than 300 mm <sup>2</sup> =16,5 mm)					
94-EB62-2ML	21,3 - 35,0	30,0 -44,0	70	530	50-150
94-EB63-2ML	27,0 - 45,7	35,0 -52,0	82	580	120-240
94-EB64-2ML	33,3 - 53,3	41,0 -65,0	90	640	240-400



## QT II

### Cold Shrink kits for three core applications

#### 18/30 kV (36 kV) Outdoor Termination

For compression cable lugs according DIN 46329

Kit Reference	Diameter over Primary Insulation (mm)	Diameter over Cable jacket max (mm)	Skirt Diameter (mm)	Max Installation length <sup>1</sup> (mm)	Application Range <sup>2</sup> (mm <sup>2</sup> )
					Outdoor 18/30 kV
94-EB63-4	21,3 - 35,0	107	70	1000 + lug	50-150
94-EB64-4	27,4 - 45,7	107	82	1000 + lug	95-240

<sup>1</sup> Installation length – from connection point up to the end of the termination

<sup>2</sup> Application ranges can be different depending on cable dimensions

Values presented have been determined by standard test methods and are average values not meant to be used for specification purposes.

## 4.2 Regulatory

The QT II Termination kits are in compliance to EU regulation 1907/2007/EC (REACH).

## 4.3 Product Identification

3M QT II Series Termination kits are marked with supplier name, cable cross section ranges, voltage class and cable type, storage conditions and manufacturing codes for product traceability.

## 4.4 Storage

All components of the QT II Termination kits are recommended to storage and stock rotation under temperature condition of -40°C up to 50°C.

## 4.5 Shelf Life

The shelf life of the 3M QT II Series Terminations is specified to 36 month.

## 5. Additional Information

To request additional product information see address below.

### ***Important Notice***

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application.

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3M Italia srl  
Electrical Market Division  
Via Norberto Bobbio, 21  
20096 Pioltello (Milano)  
Italy

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