



# Heat Shrink Tubes

ETW 804 – Polyolefin with inner sealant



## 1. Product Description

3M™ ETW-804 Heat shrink Tubes are coextruded with an inner sealing layer. The inner sealing layer gives a good sealing of complex parts while the outer wall gives a good mechanical protection of these parts. The shrink ratio of ETW-804 tubes is 4:1 making them ideally suited to applications with wide variances in diameter.

## 2. Typical Properties

### 2.1 Technical Information

Physical Properties	Value	Unit	Requirement	Test Method
Colour	Black			
Shrink ratio	4:1			
Tensile strength	12 to 16	N/mm <sup>2</sup>	min. 12	IEC 60684-2-19
Elongation at break	350 to 500	%	min. 350	IEC 60684-2-19
Longitudinal change	-8	%	-10 to 0	IEC 60684-2-9
Concentricity supplied (total wall)	60 -100	%	min. 60	IEC 60684-2-3
Secant Modulus	100	N/mm <sup>2</sup>	50 to 175	IEC 60684-2-19
Relative Density**	1.30	g/cm <sup>3</sup>	1.25 to 1.35	IEC 60684-2-4

3M Deutschland GmbH  
Carl-Schurz-Str.1  
41453 Neuss  
Germany

Reference: AABCC81762\_1\_C

© 3M 2023 All Rights Reserved.

Issue date 05.10.2023  
Supersedes 10.05.2019

Thermal Tests	Value	Unit	Requirement	Test Method
Continuous Operating Temperature**	-55 to 110	°C		
Shrink Temperature	120 to 280	°C		
Heat Shock			4 hrs at 200 °C	IEC 60684-2-6
Tensile strength	7 to 12	N/mm <sup>2</sup>	min. 7	IEC 60684-2-19
Elongation at break	200 to 400	%	min. 200	IEC 60684-2-19
Low Temperature Flexibility	Pass		4 hrs at -55 °C No cracking after bending	IEC 60684-2-14
Copper Corrosion	Pass		No Corrosion	IEC 60684-2-33
Flammability**	Pass		C (30s, 75 mm)	IEC 60684-2-26
<b>Electrical Tests</b>				
Volume resistivity	10 <sup>14</sup>	Ω/cm	min. 10 <sup>13</sup> at room temp.	IEC 60684-2-23
Breakdown voltage*	120 to 220	kV/cm	min. 118	IEC 60684-2-21

\*Range will depend on the size of tube.

\*\*Outer wall only

### 3. User Information

#### 3.1 Product Guide

Part Number	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered Wall Thickness (nominal) (mm)	Recovered Adhesive Wall Thickness (nominal) (mm)
4.0	4.0	1.0	1.0	0.5
8.0	8.0	2.0	1.0	0.5
12.0	12.0	3.0	1.4	0.6
16.0	16.0	4.0	1.8	0.8
24.0	24.0	6.0	2.2	0.8
32.0	32.0	8.0	2.5	1.0

#### 3.2 Agency Approvals and Self Certifications

- For RoHS information, please visit [www.3M.com/RoHS](http://www.3M.com/RoHS)

3M Deutschland GmbH  
 Carl-Schurz-Str.1  
 41453 Neuss  
 Germany

Reference: AABBC81762\_1\_C

© 3M 2023 All Rights Reserved.

Issue date 05.10.2023  
 Supersedes 10.05.2019

### 3.3 Shelf Life and Storage

This product has a 10-year shelf life from date of manufacture when stored in a humidity controlled area (-5 °C to 25 °C and <75 % relative humidity).

## 4. 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.*

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

*All questions of warranty and liability relating to 3M products are governed by the terms of the respective sale subject, where applicable, to the prevailing law.*

*3M is a trademark of the 3M Company.*

3M Deutschland GmbH  
Carl-Schurz-Str.1  
41453 Neuss  
Germany

Reference: AABCC81762\_1\_C

© 3M 2023 All Rights Reserved.

Issue date 05.10.2023  
Supersedes 10.05.2019