Choosing the Right Heat shrink Tube

The **80:20 rule** means that a heat shrink tube should shrink by a **maximum of 80%** and a **minimum of 20%**.

For example:

A cable with a diameter of 5 mm is to be wrapped in heatshrink tubing. In theory both sizes 6/2 and 12/4 would be suitable, since the required diameter of 5 mm lies within the shrink range of both tube sizes.

Size 6/2

Maximum shrink (100%)

Maximum shrinkage = 4 mm

Optimum shrinkage max. (80%)

Shrinkage of 3.2 mm

Optimum shrinkage min. (20%)

Shrinkage of 0.8 mm

Size 6/2 has a range of application of between 2.8 mm and 5.2 mm and is therefore suitable for the cable diameter of 5 mm.

Size 12/4

Maximum shrink (100%)

Maximum shrinkage = 8 mm

Optimum shrinkage max. (80%)

Shrinkage of 6.4 mm

Optimum shrinkage min. (20%)

Shrinkage of 1.6 mm

The smallest application diameter of size 12/4 is 5.6 mm. This size is therefore unsuitable for a cable diameter of 5 mm.

Conversion from imperial to metric

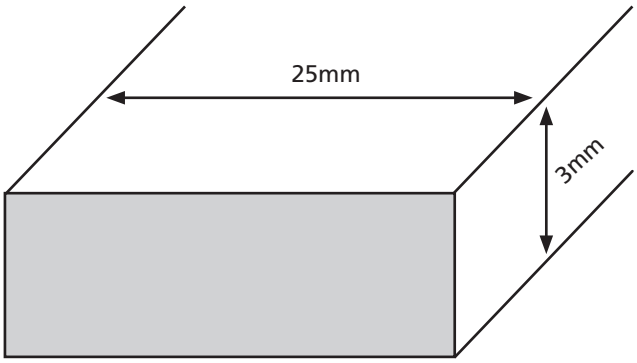
Inch	1/32"	3/64"	1/16"	5/64"	3/32"	1/8"	3/16"	1/4"	3/8"
mm	0.8	1.2	1.6	2.0	2.4	3.2	4.8	6.4	9.5
Inch	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
mm	12.7	15.9	19.1	25.4	31.8	38.1	50.8	76.2	101.6

Busbars

Determine the outside as follows:
Add the four sides and divide by 3.14

NB: The answer will relate to the OD you want to shrink down to. Allowance must be made for the size to give sufficient clearance to slip easily over the bar +10% is a good estimation.

e.g: Busbar size = 25 x 3mm
= 25 + 25 + 3 + 3
= 56
÷ 3.14
= 17.83 (+ 10% for clearance)
= 19.61mm - Most suitable diameter (19.0mm)

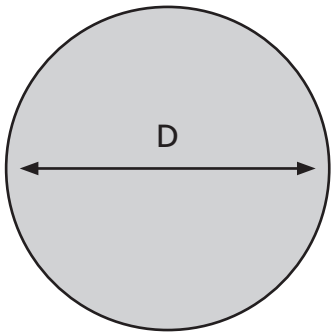


Lay Flat Sizes Chart

The lay f at size of Heatshrink tube is NOT the Internal Diameter of the tubing.

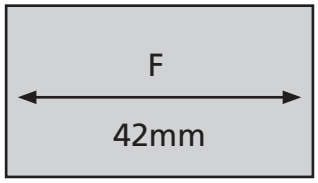
The lay f at size however is indicative to the approximate ID which will always be smaller than the mm measured (Refer to chart)

Flat (mm)	Internal Diameter
2.0	1.3
2.5	1.6
4.0	2.4
6.0	3.2
8.0	4.8
11.0	6.4
16.0	9.5
21.5	12.7
32.5	19.0
42.0 - 43.0	25.4
63.0 - 64.5	38.1
84.0 - 85.0	50.8
129.0	76.2
166.5	102.0
222.0	120.0
Tolerance ± depending on shrink grade	



$C = \pi D$
$= 3.14 \times D$

$2F = C = 3.14 \times D$
$2F = 3.14 \times D$



$D = \frac{2F}{3.14}$
$= 2 \times 42$
$= 84$
$D = 26.8$