



## Miscellaneous PRT™ Tubing Data

(ZT99-98-005)

This document provides useful information associated with using Zippertubing's PRT™ heat shrinkable, wrap around tubing. The data listed below is applicable to Zippertubing products ordered to part numbers ZT98-04-016-\* after 06-01-11.

### **Self-Life**

PRT™ products have a maximum shelf-life period of 24 months (2-years) from the date of manufacture when stored at a temperature of 72 °F (22 °C), 50 % R.H. (relative humidity) and are not exposed to direct sunlight. Storage conditions other than those stated above may result in a shorter shelf-Life. Materials should only be purchased in quantities such that all materials are consumed prior to the material exceeding its recommended shelf-life.

### **Wall Thickness**

The table below indicates the approximate wall thickness of PRT™ heat shrinkable tubing based on size. The dimensions are the approximate thickness that would be expected if the tubing were allowed to fully shrink without any cable inside. Actual installed wall thickness' will generally be less than those indicated, since most tubing installations are sized so the tubing makes contact with the electrical cables prior to reaching the fully recovered state.

#### **PRT™ Wall Thickness**

PRT-(size)	Thickness (inch)	PRT-(size)	Thickness (inch)
<b>#0</b>	.033	<b>#8</b>	.045
<b>#1</b>	.033	<b>#9</b>	.060
<b>#2</b>	.039	<b>#10</b>	.060
<b>#3</b>	.035	<b>#11</b>	.060
<b>#4</b>	.035	<b>#12</b>	.055
<b>#5</b>	.045	<b>#13</b>	.055
<b>#6</b>	.045	<b>#14</b>	.055
<b>#7</b>	.045	<b>#15</b>	.055

## Unknown PRT™ Size

The following table provides a means of determining what size PRT™ material you have if the material has been removed from the shipping spool without transferring the identifying part number to the cut off piece! Place the unknown sample on a table and lay it out as flat as possible. Measure both the material edge-to-edge width and the width of the adhesive tape release liner. Use the table below and find the measured dimensions in columns 2 and 3. The PRT™ tubing size that corresponds to these dimensions is shown in column 1. Your actual edge to edge dimension may be slightly different than those shown in column 2, but they should be close. Find the best edge to edge dimensional fit that has the exact tape width match. An alternate method is to heat shrink a sample of the unknown material around a mandrel at least 10x smaller than the sealed tubing in its expanded diameter. Allow sample to cool to room temperature and then measure the inside diameter using a Plug-Gage technique and check it against the PRT Sizing Chart dimensions shown in the PRT Tubing Installation document ZT99-98-003.

### Unknown Size

PRT Size	Edge to Edge	Tape Width
<b>#0</b>	1-3/4	1/2
<b>#1</b>	2-1/16	1/2
<b>#2</b>	2-13/16	3/4
<b>#3</b>	2-1/2	1/2
<b>#4</b>	3-1/4	1/2
<b>#5</b>	4-5/8	3/4
<b>#6</b>	5-1/2	1.0
<b>#7</b>	6-1/4	1.0
<b>#8</b>	6-7/8	3/4
<b>#9</b>	8-1/2	1.0
<b>#10</b>	9-3/8	1.0
<b>#11</b>	10.0	1.0
<b>#12</b>	11-1/4	1.0
<b>#13</b>	12-3/8	1.0
<b>#14</b>	13.0	1.0
<b>#15</b>	13-5/8	1.0

## Large PRT™ Sizes

It is possible to create a PRT™ jacket for cables with diameters beyond those shown in the standard sizing chart. To achieve this, two or three pieces of a standard size tubing can be joined together to provide the material needed. The resulting cable jacket will have multiple overlap seams instead of just one. The installation procedure for these large jackets will follow the same basic process as used for the standard size products. The difference is that the pieces should be pre-joined along the seam lines prior to wrapping the tubing around the cable. Once installed heat should be applied to each of the overlap seam areas over their entire lengths prior to shrinking the remaining tubing. The chart below provides the recommended material combinations.

### Multiple Piece PRT™ Sizes

Cable O.D.	2 – PRT's Req'd	Cable O.D.	3 – PRT's Req'd
2.0	2 - #9's	3-3/4	3 - #11's
2-1/8	1 - #9 & 1 - #10	3-7/8	2 - #11's & 1 - #12
2-1/4	2 - #10's	4.0	2 - #12's & 1 - #11
2-3/8	1 - #10 & 1 - #11	4-1/8	3 - #12's
2-1/2	2 - #11's	4-1/4	2 - #12's & 1 - #13
2-5/8	1 - #11 & 1 - #12	4-3/8	2 - #13's & 1 - #12
2-3/4	2 - #12's	4-1/2	3 - #13's
2-7/8	1 - #12 & 1 - #13	4-5/8	1 - #14 & 2 - #13's
3.0	2 - #13's	4-3/4	2 - #14's & 1 - #13
3-1/8	1 - #13 & 1 - #14	4-7/8	3 - #14's
3-1/4	2 - #14's	5.0	2 - #14's & 1 - #15
3-3/8	1 - #14 & 1 - #15	5-1/8	2 - #15's & 1 - #14
3-1/2	2 - #15's	5-1/4	3 - #15's
3-5/8	1 - #10 & 2 - #11		

#### NOTE:

A sample of the multi-piece construction should always be fabricated with no cool to room temperature, measure the finished inside diameter and confirm that it is equal too or just slightly smaller than the outside diameter of the cable to be covered. If so, proceed with the installation. If the sample is larger than the cable then make another sample using the same technique but substitute one of the "PRT" sizes (the larger piece if the sizes are different) to the next smaller size. It is desirable to keep all the "PRT" sizes within one size range of each other so the finished tubing pieces have a similar wall thickness.