

Junkosha[®] Peelable Heat Shrink Tubing

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Enabling Technology Innovators

Junkosha® Peelable Heat Shrink Tubing

Product Introduction

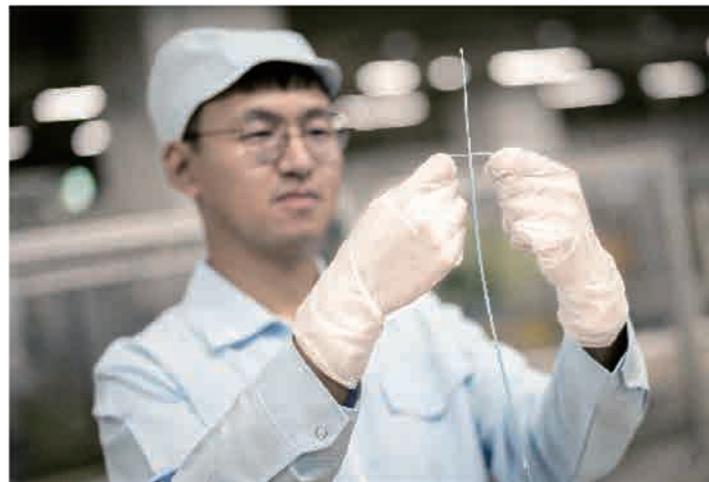
Junkosha has focused on issues in the manufacturing process of catheters and guide wires. As the pioneer of sophisticated fluoropolymer application technologies across the medical device sector, we have developed the market leading peelable heat shrink tubing.

In the industry of catheters and guide wires, we understand that simple and reliable methods help extremely fine processes remain unproblematic.

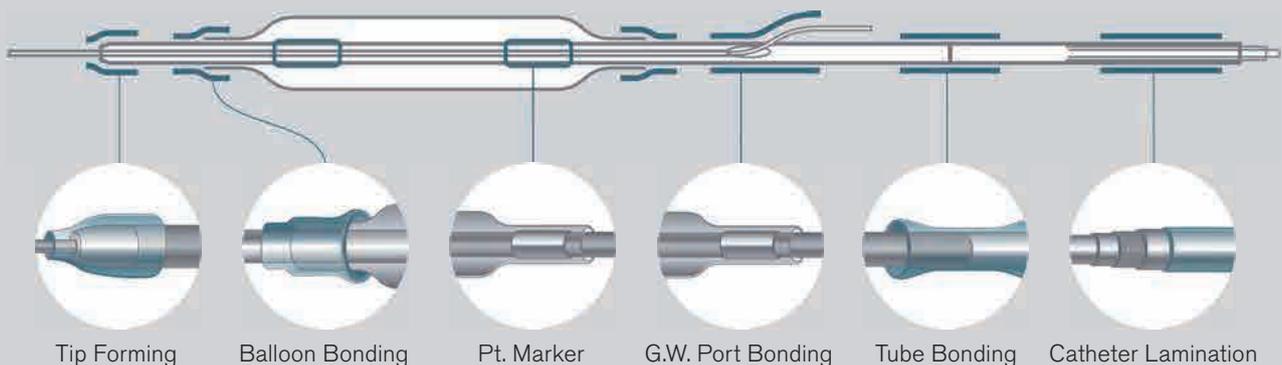
Junkosha Peelable Heat Shrink Tubing vs Other Traditional HST

Removing traditional FEP-heat shrink tubing (HST) smoothly has been a serious problem in catheter manufacturing for many years. FEP-HST is used to weld, laminate, tip and other processes. The only way to remove it from the catheter is by "skiving" it off, which not only takes significant time, there is also a possibility that the catheter can become damaged in the process. Both costly and time consuming, the market needed to find a viable solution to this unmet need.

With the challenge set, Junkosha designed a product called peelable heat shrink tubing. Offering all of the performance of standard heat shrink tubing, it included one critical difference: it is very easy to remove from the catheter. Junkosha Peelable Heat Shrink Tubing solution needs only a single slit at one end to get it started, enabling it to be easily peeled along its entire length. This solution reduces Total Cost of Ownership (TCO) for catheter manufacturers, by helping them to produce the final product more rapidly with improved yields and lower inspection levels while being more ergonomically safe. Overall, Junkosha Peelable Heat Shrink Tubing is the industry's first peelable FEP heat shrink tubing, and continues to be the industry benchmark of safety and performance.



Application



Product Lineup

Material: Fluoropolymer
 Recommended Temperature: 200°C / 392° F

NFPX High Shrink 2.0:1 Shrink Ratio Standard Length: 1000 mm Color: Transparent MOQ/SPQ:100/100 [pcs]

Parts No.	Metric			Imperial			French
	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Suitable for
NFPX0045	0.60 mm	0.30 mm	0.20 +/- 0.05 mm	0.0236"	0.0118"	0.0079 +/- 0.0020"	1.3 - 1.5 Fr
NFPX0090	1.20 mm	0.60 mm	0.25 +/- 0.05 mm	0.0472"	0.0236"	0.0098 +/- 0.0020"	2.2 - 2.3 Fr
NFPX0150	2.00 mm	1.00 mm	0.275 +/- 0.05 mm	0.0787"	0.0394"	0.0108 +/- 0.0020"	3.4 - 5.7 Fr

NFPR Standard 1.8:1 Shrink Ratio Standard Length: 1700 mm Color: Translucent MOQ/SPQ:100/100 [pcs]

Parts No.	Metric			Imperial			French
	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Suitable for
NFPR006	0.72 mm	0.40 mm	0.25 +/- 0.05 mm	0.0283"	0.0157"	0.0098 +/- 0.0020"	1.6 - 1.8 Fr
NFPR007	0.90 mm	0.50 mm	0.25 +/- 0.05 mm	0.0354"	0.0197"	0.0098 +/- 0.0020"	1.9 - 2.4 Fr
NFPR008	1.08 mm	0.60 mm	0.25 +/- 0.05 mm	0.0425"	0.0236"	0.0098 +/- 0.0020"	2.2 - 2.9 Fr
NFPR010	1.26 mm	0.70 mm	0.25 +/- 0.05 mm	0.0496"	0.0276"	0.0098 +/- 0.0020"	2.5 - 3.5 Fr
NFPR011	1.44 mm	0.80 mm	0.25 +/- 0.05 mm	0.0567"	0.0315"	0.0098 +/- 0.0020"	2.8 - 4.0 Fr
NFPR013	1.62 mm	0.90 mm	0.25 +/- 0.05 mm	0.0638"	0.0354"	0.0098 +/- 0.0020"	3.1 - 4.6 Fr
NFPR014	1.80 mm	1.00 mm	0.25 +/- 0.05 mm	0.0709"	0.0394"	0.0098 +/- 0.0020"	3.4 - 5.1 Fr
NFPR018	2.34 mm	1.30 mm	0.25 +/- 0.05 mm	0.0921"	0.0512"	0.0098 +/- 0.0020"	4.3 - 6.7 Fr
NFPR022	2.88 mm	1.60 mm	0.28 +/- 0.05 mm	0.1134"	0.0630"	0.0110 +/- 0.0020"	5.2 - 8.4 Fr
NFPR029	3.78 mm	2.10 mm	0.30 +/- 0.05 mm	0.1488"	0.0827"	0.0118 +/- 0.0020"	6.7 - 11.1 Fr

NFPM Ultra Small 1.6:1 Shrink Ratio Standard Length: 1000 mm Color: Translucent MOQ/SPQ:100/100 [pcs]

Parts No.	Metric			Imperial			French
	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Suitable for
NFPM0030	0.38 mm	0.23 mm	0.20 +/- 0.05 mm	0.0150"	0.0091"	0.0079 +/- 0.0020"	0.9 - 1.0 Fr
NFPM0037	0.46 mm	0.28 mm	0.20 +/- 0.05 mm	0.0181"	0.0110"	0.0079 +/- 0.0020"	1.0 - 1.2 Fr
NFPM0042	0.51 mm	0.33 mm	0.20 +/- 0.05 mm	0.0201"	0.0130"	0.0079 +/- 0.0020"	1.2 - 1.3 Fr

NFPS Standard 1.6:1 Shrink Ratio Standard Length: 1700 mm Color: Translucent MOQ/SPQ:100/100 [pcs]

Parts No.	Metric			Imperial			French
	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Suitable for
NFPS005	0.64 mm	0.40 mm	0.20 +/- 0.05 mm	0.0252"	0.0157"	0.0079 +/- 0.0020"	1.6 Fr
NFPS007	0.80 mm	0.50 mm	0.20 +/- 0.05 mm	0.0315"	0.0197"	0.0079 +/- 0.0020"	1.9 - 2.1 Fr
NFPS008	0.96 mm	0.60 mm	0.20 +/- 0.05 mm	0.0378"	0.0236"	0.0079 +/- 0.0020"	2.2 - 2.6 Fr
NFPS009	1.12 mm	0.70 mm	0.20 +/- 0.05 mm	0.0441"	0.0276"	0.0079 +/- 0.0020"	2.5 - 3.0 Fr
NFPS010	1.28 mm	0.80 mm	0.20 +/- 0.05 mm	0.0504"	0.0315"	0.0079 +/- 0.0020"	2.8 - 3.5 Fr
NFPS012	1.44 mm	0.90 mm	0.20 +/- 0.05 mm	0.0567"	0.0354"	0.0079 +/- 0.0020"	3.1 - 4.0 Fr
NFPS013	1.60 mm	1.00 mm	0.20 +/- 0.05 mm	0.0630"	0.0394"	0.0079 +/- 0.0020"	3.4 - 4.5 Fr
NFPS017	2.08 mm	1.30 mm	0.20 +/- 0.05 mm	0.0819"	0.0512"	0.0079 +/- 0.0020"	4.3 - 6.0 Fr
NFPS021	2.56 mm	1.60 mm	0.275 +/- 0.05 mm	0.1008"	0.0630"	0.0108 +/- 0.0020"	5.2 - 7.4 Fr
NFPS028	3.36 mm	2.10 mm	0.275 +/- 0.05 mm	0.1323"	0.0827"	0.0108 +/- 0.0020"	6.7 - 9.8 Fr

NFPS Large 1.6~1.4:1 Shrink Ratio Standard Length: 1000 mm Color: Translucent MOQ/SPQ:50/50 [pcs]

Parts No.	Metric			Imperial			French
	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Suitable for
NFPS036	4.45 mm	2.79 mm	0.275 +/- 0.05 mm	0.1752"	0.1098"	0.0108 +/- 0.0020"	8.8 - 13.1 Fr
NFPS038	4.78 mm	2.92 mm	0.275 +/- 0.05 mm	0.1882"	0.1150"	0.0108 +/- 0.0020"	9.2 - 14.1 Fr
NFPS052	6.05 mm	4.32 mm	0.275 +/- 0.05 mm	0.2382"	0.1701"	0.0108 +/- 0.0020"	13.4 - 18.0 Fr

NFP Extra Large 1.5:1 Shrink Ratio Standard Length: 1500 mm Color: Translucent MOQ/SPQ:25/25 [pcs]

Parts No.	Metric			Imperial			French
	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Suitable for
NFP064	7.62 mm	5.08 mm	0.33 +/- 0.05 mm	0.3000"	0.2000"	0.0130 +/- 0.0020"	15.7 - 22.7 Fr
NFP074	8.89 mm	5.93 mm	0.33 +/- 0.05 mm	0.3500"	0.2335"	0.0130 +/- 0.0020"	18.3 - 26.6 Fr
NFP085	10.16 mm	6.77 mm	0.33 +/- 0.05 mm	0.4000"	0.2665"	0.0130 +/- 0.0020"	20.9 - 30.4 Fr
NFP095	11.43 mm	7.62 mm	0.33 +/- 0.05 mm	0.4500"	0.3000"	0.0130 +/- 0.0020"	23.4 - 34.3 Fr

NFP Standard 1.4:1 Shrink Ratio Standard Length: 1500 mm Color: Translucent MOQ/SPQ:100/100 [pcs]

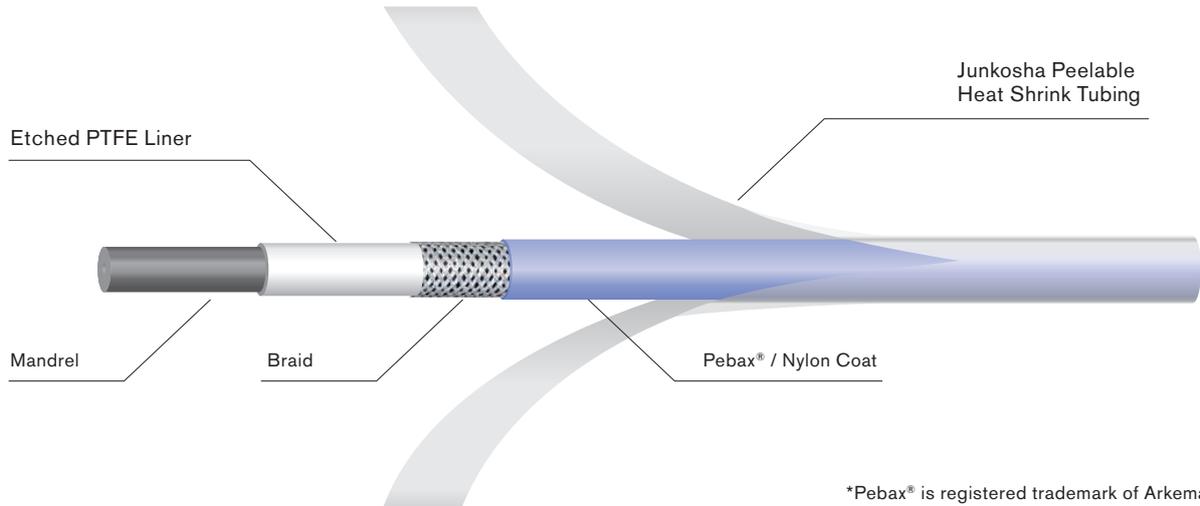
Parts No.	Metric			Imperial			French
	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Expanded I.D. Min.	Full Recovered I.D. Max.	Full Recovered Wall Thickness	Suitable for
NFP006	0.71 mm	0.50 mm	0.20 +/- 0.05 mm	0.0280"	0.0197"	0.0079 +/- 0.0020"	1.8 - 1.9 Fr
NFP007	0.86 mm	0.60 mm	0.20 +/- 0.05 mm	0.0339"	0.0236"	0.0079 +/- 0.0020"	2.2 - 2.3 Fr
NFP008	1.00 mm	0.70 mm	0.20 +/- 0.05 mm	0.0394"	0.0276"	0.0079 +/- 0.0020"	2.5 - 2.7 Fr
NFP010	1.14 mm	0.80 mm	0.20 +/- 0.05 mm	0.0449"	0.0315"	0.0079 +/- 0.0020"	2.8 - 3.1 Fr
NFP011	1.29 mm	0.90 mm	0.20 +/- 0.05 mm	0.0508"	0.0354"	0.0079 +/- 0.0020"	3.1 - 3.6 Fr
NFP013	1.57 mm	1.10 mm	0.20 +/- 0.05 mm	0.0618"	0.0433"	0.0079 +/- 0.0020"	3.7 - 4.4 Fr
NFP017	2.00 mm	1.40 mm	0.20 +/- 0.05 mm	0.0787"	0.0551"	0.0079 +/- 0.0020"	4.6 - 5.7 Fr
NFP021	2.30 mm	1.70 mm	0.25 +/- 0.05 mm	0.0906"	0.0669"	0.0098 +/- 0.0020"	5.5 - 6.6 Fr
NFP026	2.84 mm	2.10 mm	0.25 +/- 0.05 mm	0.1118"	0.0827"	0.0098 +/- 0.0020"	6.7 - 8.3 Fr
NFP030	3.38 mm	2.50 mm	0.25 +/- 0.05 mm	0.1331"	0.0984"	0.0098 +/- 0.0020"	7.9 - 9.9 Fr

*Junkosha is manufactured and inspected in mm and values in inch are for reference only. Measurements of each dimension are performed using metric based measuring instruments.

*The inch values are calculated from the actual measured values (metric values) using the following formula, with one digit below the displayed digit rounded to the nearest value (numbers 5 and above are rounded up, and numbers below 5 are rounded down). (Inch value) = (Metric value) ÷ 25.4

*Peelable Heat Shrink Tubing meets the requirement of USP Plastic Class VI. Certificates available on request.

General Catheter Layers



Specification and Application

Application		GuideWire/Coils	Micro Catheter	Balloon Catheter	EP/Ablation Catheter	Guiding/Sheath	AAA/TAA/TAVI																																		
Catheter O.D	inch	0.008	0.012	0.016	0.020	0.024	0.028	0.031	0.035	0.039	0.043	0.047	0.051	0.055	0.059	0.063	0.067	0.071	0.075	0.079	0.083	0.087	0.091	0.094	0.098	0.102	0.106	0.110	0.114	0.118	0.122	0.126	0.130	0.134	0.138	0.142	0.157	0.315	0.315	0.315	0.450
	mm	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	4.0	8.0	8.0	8.0	11.43
Transparent	NFPX	2.0 : 1																																							
Translucent	NFPR					1.8 : 1																																			
	NFPM	1.6 : 1																																							
	NFPS					1.6 : 1															1.4 : 1																				
	NFP					1.4 : 1															1.5 : 1																				

Options



Shrink ratio up to 1.8:1 for custom translucent and 2.0:1 for custom transparent. Please contact your Junkosha Sales Associate.



Inspection Sampling Plan



Cut to length and slit available for small size or short length applications



For sample requests, please contact your Junkosha Sales Associate

Patent Information for Junkosha Peelable Heat Shrink Tubing

The family of Junkosha Peelable Heat Shrink Tubing products is protected by patents or patent applications listed below. The list is not all inclusive and Junkosha Peelable Heat Shrink Tubing is covered by a global intellectual property network.

Jurisdiction	Patent Number / Patent Application Number				
China	ZL201280048315.2	ZL201510018848.1	ZL201610065436.8	CN202080026174	
Europe	EP2749802	EP3050696	EP3135313	EP20748499	
Japan	JP5518268	JP5839310	JP6990501	JP2020013370	
United States	US9446171	US9623154	US9464149	US9957384	US202017427189

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