

Nitinol (Ni-Ti) Orthodontic Wires

Furukawa Techno Material
2E-GISI-25-01

- Furukawa Techno Material has been supplying Nitinol wire for orthodontic applications for over 30 years, providing stable supply to markets worldwide.
- The integrated manufacturing process from melting enables a wide variety of alloy types. Multiple Ni-Ti binary alloys and Cu-NiTi alloys are available.
- Ni-Ti binary alloys are capable of complying with ASTM F2063.
- Using a special rolling technique that firmly constrains both vertical and horizontal dimensions, we can supply rectangular wires with sharp corner radius and high perpendicularity. We believe this wire maximizes torque utilization in orthodontic treatment.

Alloys

Alloy Type	Ingot Af (°C)	Nominal composition (wt%)				Comments
		Ni	Ti	Cu	Cr	
NT-N *	-10 ~ 10	56.0	bal.	-	-	High plateau stress
NT-E4 *	5 ~ 20	55.9	bal.	-	-	Standard superelastic
NT-E9 *	20 ~ 35	55.8	bal.	-	-	Soft superelastic
NT-MD *	30 ~ 43	55.7	bal.	-	-	Thermal activate
NT-HR2	23 ~ 43	49.4	bal.	5.9	0.3	Small stress hysteresis & soft
NT-HR3	29 ~ 49	49.5	bal.	5.9	0.2	Small stress hysteresis & soft

* Comply with ASTM F2063-18.

Dimensions

Round	Rectangular			
0.254 ~ 0.508 ± 0.0070	0.355 ~ 0.533 ± 0.0070	x	0.406 ~ 0.711 ± 0.0070	mm
0.010 ~ 0.020 ± 0.0003	0.014 ~ 0.021 ± 0.0003	x	0.016 ~ 0.028 ± 0.0003	inch

Mechanical Properties & others

Tensile strength	Elongation	Surface	Corner Radius
1350 ~ 1700 MPa	4 ~ %	Thin oxide or Pickled	0.025 ~ 0.102 mm
196 ~ 247 Kpsi			0.001 ~ 0.004 inch