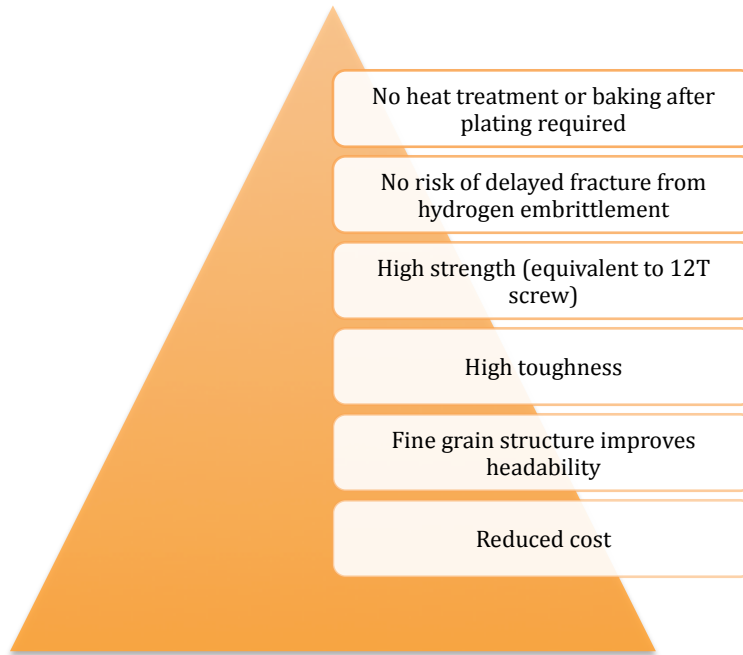



TDL4 MICRO ALLOY STEEL ECO-WIRE

Characteristics:




Merits:

Grade	Heat Treatment	Baking after Electro-Plating	Delayed Fracture (Hydrogen Embrittlement)	Property Class	Surface Hardness
TDL4	Not required	Not required	No risk	8.8 equivalent	N.A.
Low Carbon Steel	Case hardening	Required	Risk factor	N/A	Hv450~500



No CO2 emissions & no secondary process costs



Higher tensile strength & safety/security

Applications:

- Miniature tapping screws for plastics (mobile phone, PC, IT device, etc.)
- Miniature machine screws (IT device, cassette, miniature mechanisms, etc.)

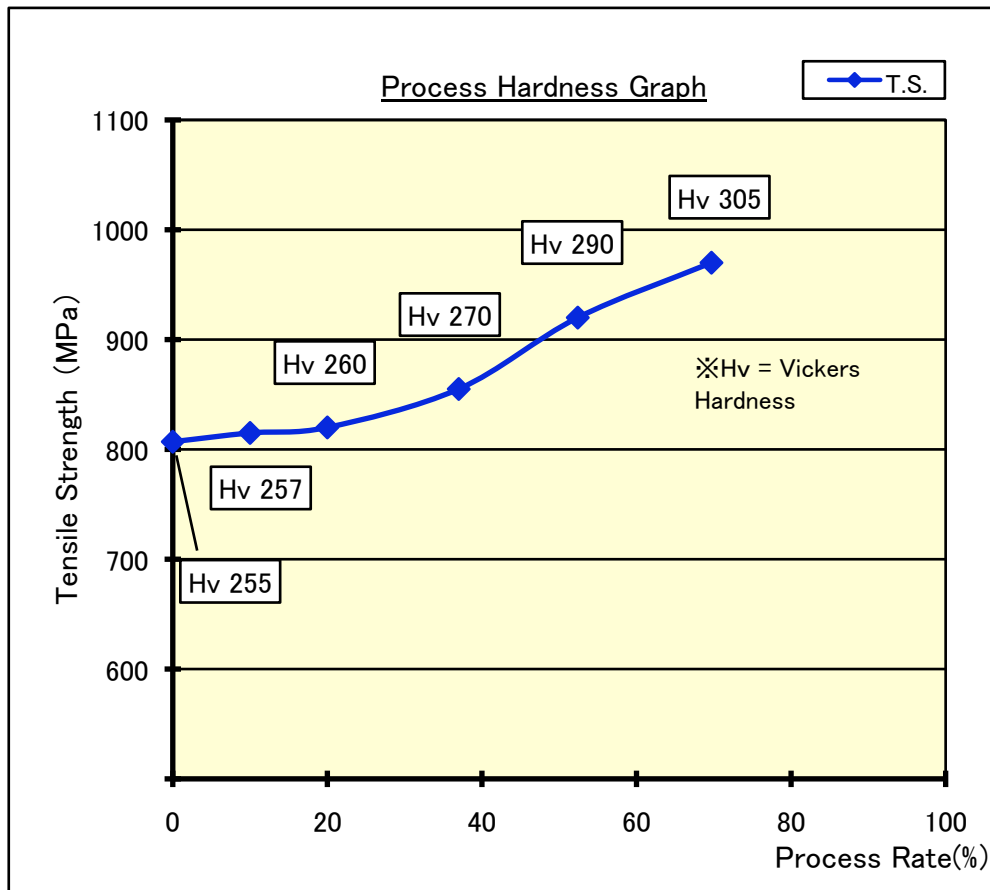
Chemical Composition

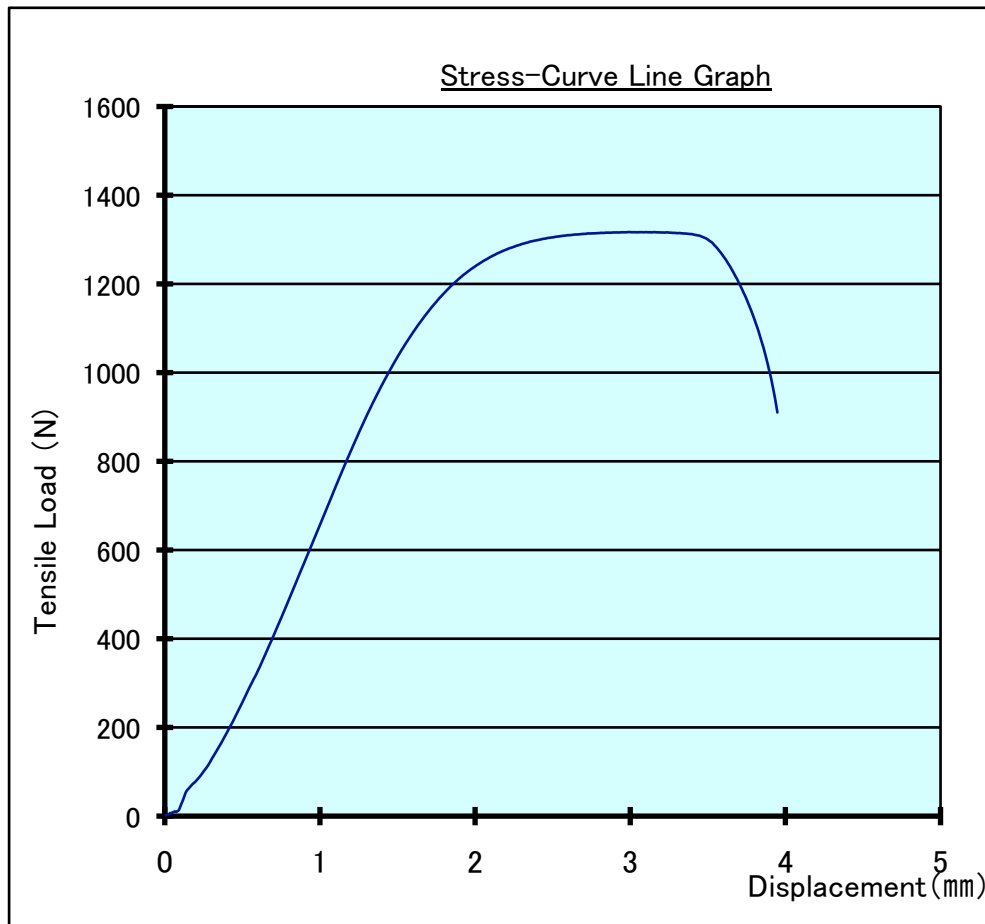
Grade	C	Si (max)	Mn	Ti	P (max)	S (max)	Al	B	N (max)
TDL4	0.03 ~ 0.08	0.2	0.8 ~ 1.8	0.005 ~ 0.07	0.020	0.020	0.01 ~ 0.06	0.0008 ~ 0.003	0.01
1016	0.13 ~ 0.18	0.10	0.60 ~ 0.90		0.030	0.035	0.02 (min)		

Mechanical Properties

Grade	Ultimate Tensile Strength (UTS)	Yield Strength (YS)	Modulus of Elasticity (E)	Poisson's Ratio	Elongation (%)
TDL4	900 MPa	750 MPa	213,000 MPa	0.28	13.2

Hardening Characteristics when processing from Wire to Screws



TDL4 Ø1.45mm Tensile Strength Data (T.S. 809 MPa, R.A. 77%)

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