

# Q&A

**Question:** Tell us about the material and Heat treatment of Ball Screws.

Material and Heat treatment of KSS Ball Screws are as follows.

Classification	Components	Material	Heat treatment	Surface Hardness
Normal	Shaft	Chrome-molybdenum Steel (SCM415)	Carburizing & Quenching	HRC 58-62
	Nut	Chrome-molybdenum Steel (SCM415)	Carburizing & Quenching	HRC 58-62
	Balls	High carbon chromium Bearing steel (SUJ2)	Quenching & Tempering	HRC60 or more
Stainless	Shaft Nut Balls	Martensite stainless steel (SUS440C)	Quenching & Tempering	HRC55 or more

Other materials other than the above can be provided in accordance with customer's request. Follows are the examples of special material.

- 1) SUS630 (Precipitation hardening stainless steel) ……Corrosion resistance, strength.
- 2) SUS303、SUS304 (Austenite stainless steel) ……Corrosion resistance, nonmagnetic usage.
- 3) Resin (Nylon, Peek) ……Light weight, corrosion resistance, nonmagnetic usage.

In case of special material request, care must be taken on each component other than the above. So, we recommend that customer should consult with KSS engineering about the details.

**A suitable heat treatment is adopted depending on Ball Screw material!!!**