

Lead-free high-carbon high-speed tool steel

ASK-1100B

The ASK-1100B achieves machinability equivalent to conventional leaded tool steel without containing lead. It is a Pb-free free-cutting tool steel based on SK95.

Pb-FREE

**No
Lead (Pb)
Added**

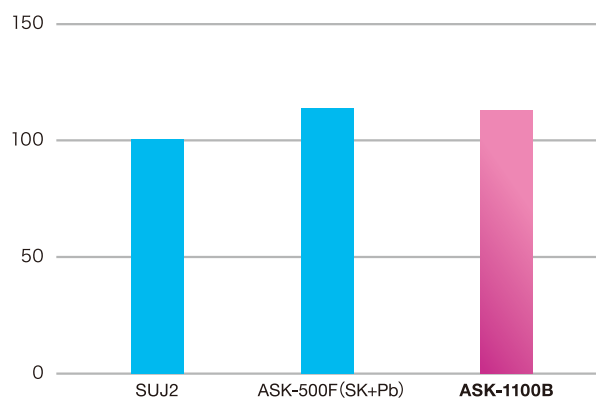
**ASK-1100B
Product
Features**

**Excellent
Machinability**

Since it does not contain lead (Pb) as a free-cutting element, it fully complies with various environmental regulations.
Example: RoHS Directive-lead content in steel is less than 0.1%.

The addition of bismuth (Bi) enables precise, high-speed, and long-duration machining.

◇ Machinability Index



Cutting conditions

- ① Test material : $\phi 10.00$
- ② Cutting tool : VP15TF(Mitsubishi)
- ③ Depth of cut : 1.0mm
- ④ Feed rate : 0.10mm/rev
- ⑤ Cutting speed : 150m/min

※The machinability index is compared to the cutting resistance value of SUJ2, which is set as 100. A
※Higher index indicates better machinability.

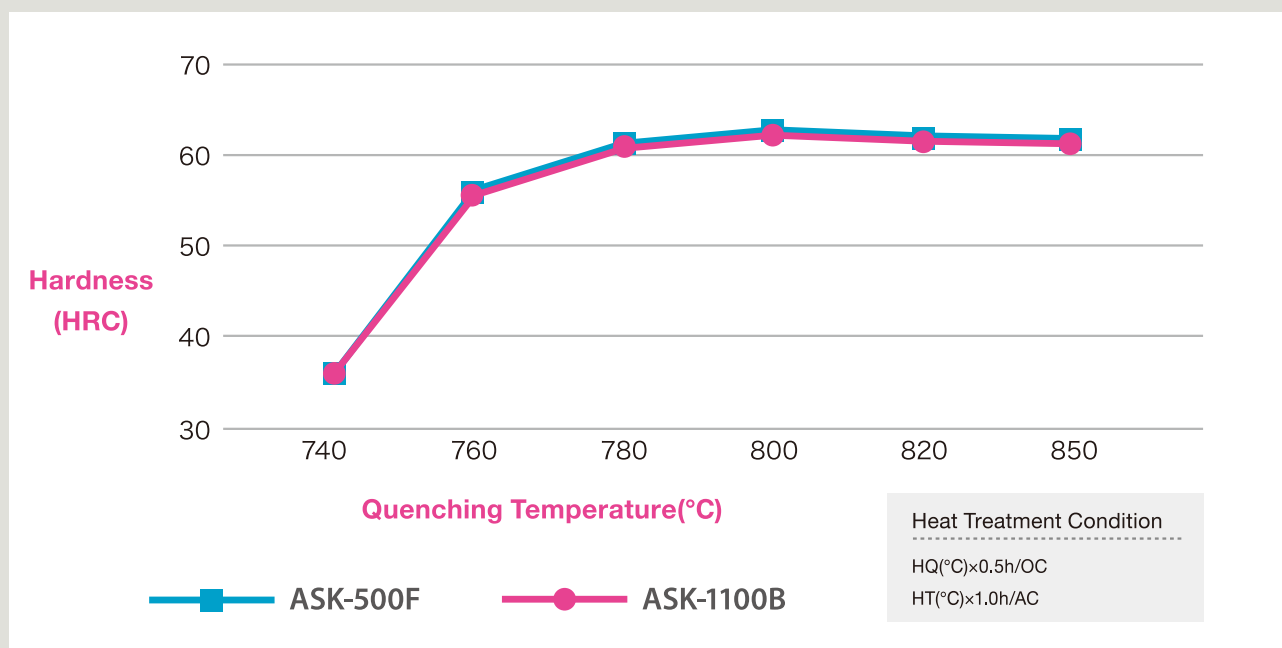
◇ Chemical Composition / Physical Properties

C	Si	Mn	P	S	Bi
0.90~1.00	≤0.35	≤0.85	≤0.030	≤0.090	0.10~0.35

(wt%)

Basic Mass g/cm ³	Young's Modulus KN/mm ²	Poisson's ratio	Linear Expansion Coefficient(average) 10 ⁻⁶ ·°C	Thermal Conductivity W/m ·°C	Specific Heat Capacity J/g ·°C	Electrical Resistivity Ωm×10 ⁻⁸
Normal temp.	Normal temp.	Normal temp.	0-100°C	20-100°C	0-100°C	Normal temp.
7.8	209	0.29	11.3	54	0.51	19

◇ Heat Treatment Properties



◇ Machinability Index



SUJ2



ASK-500F



ASK-1100B

