

フェライト系超快削ステンレス鋼

Ferritic Free-cutting Stainless Steel

ASK-3200

秋山精鋼株式会社
ASK AKIYAMA SEIKO CO.,LTD.

ASK-3200とは・・・

フェライト系ステンレス鋼の基本鋼であるSUS430をベースに、被削性・耐食性を驚異的にUP！！

ステンレス鋼の中でも最高の被削性と、オーステナイト系ステンレス鋼に匹敵する耐食性を併せ持つハイブリッドステンレス鋼、それが **ASK-3200** です。

ASK-3200 is Free-cutting stainless steel made using SUS430 as the base steel, increasing its property that is the corrosion resistance and the machinability drastically.

ASK-3200 has the good corrosion resistance that is simillar to Austenitec stainless steel and that of machinability would be the best in the group of stainless steel.

4つの特徴



良く切削れる!!

Good machinability

S・Pb・Teの添加により、SUS303の2倍以上の被削性を実現。

The machinability of ASK-3200 is 2 times and more compared with that of SUS303, added Sulfur, Lead and Tellurim.

- ※超精密切削加工が可能
- ※長時間切削加工が可能
- ※高速切削加工が可能



錆びにくい!!

Good corrosion resistance

Cr・Moの増量により、SUS303と同等の耐食性を実現。

The corrosion resistance of ASK-3200 is same as that of SUS303, increasing the adding volume at Chromium and Molybdenum.

- ※SUM24LやSUS430F等での切削加工後のメッキ処理が不要
- ※大気中での使用ではメッキ不要



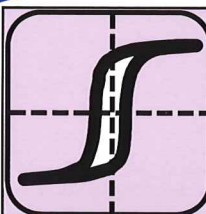
冷間加工がしやすい!!

Available for the cold working

SUS303の約2倍の冷間加工性で、低炭素快削鋼並みの抗張力・伸び・絞り。

The cold working level of ASK-3200 is 2 times compared with that of SUS303, and its tensile strength, elongation and reduction of area is similar to SUM24L.

- ※SUS303では難しかった冷間加工が可能
- ※切削加工+カシメ加工に最適



電磁ステンレスとしても!!

Available to be used

Electromagnetic stainless steel

S10C相当の保磁力を持ち、快削電磁ステンレスとしても使用可能。

The coercive force of ASK-3200 is similar to that of S10C/carbon steel. ASK-3200 could be used to replace the Electromagnetic stainless steel.

- ※従来の電磁ステンレスに比べ、被削性・耐食性・入手性に優位

化学成分/物理特性

Chemical composition / Physical property

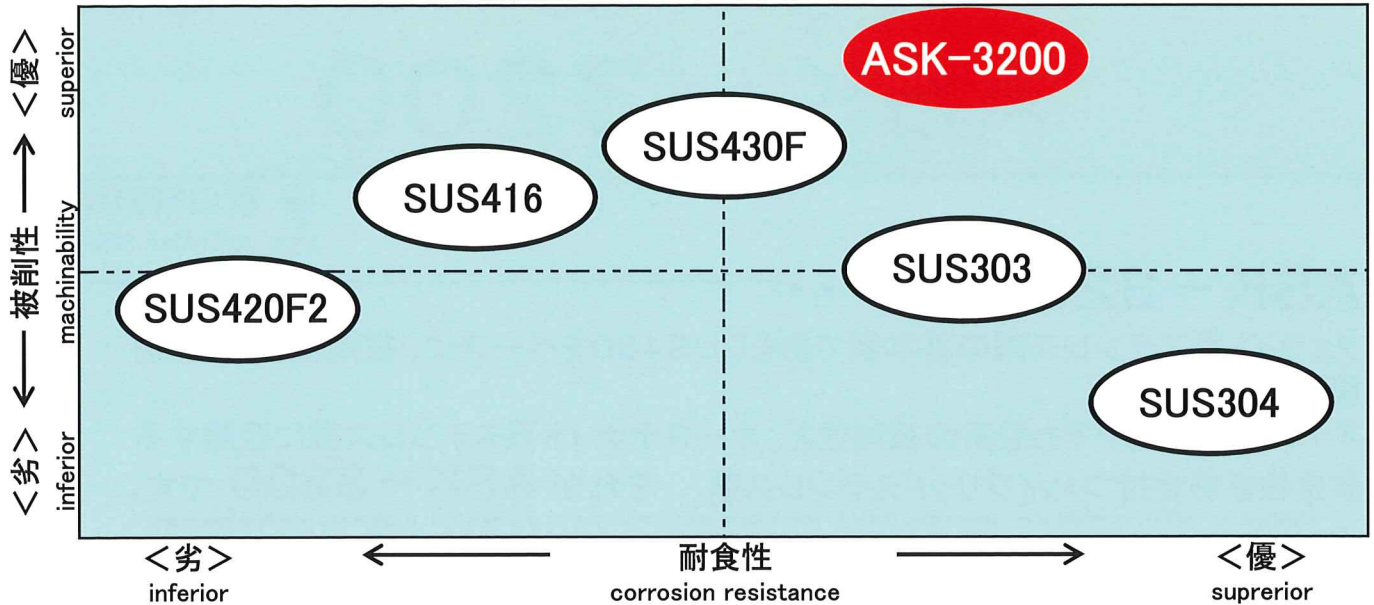
(wt%)

C	Si	Mn	P	S	Cr	Mo	Pb	Te
≤0.05	≤1.00	≤2.00	≤0.050	≥0.150	19.00-21.00	1.50-2.50	0.10-0.30	≤0.08

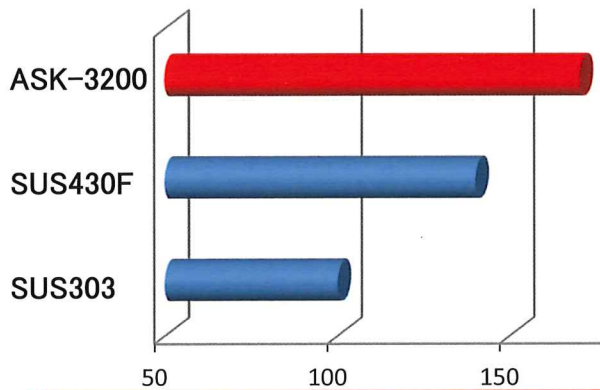
基本質量	ヤング率	ポアソン比	平均線膨張係数	熱伝導率	比熱	比電気抵抗
Mass	Young's modulus	Poisson's ratio	Linear expansion coefficient(average)	Thermal conductivity	Specific heat	Electrical resistance
g/cm ³	KN/mm ²		10 ⁻⁶ /°C	W/m·°C	J/g·°C	Ωm × 10 ⁻⁸
Normal temp.	Normal temp.	Normal temp.	0-100°C	20-100°C	0-100°C	Normal temp.
7.7	200	0.21	10.4	36.9	0.48	60

被削性と耐食性の関係

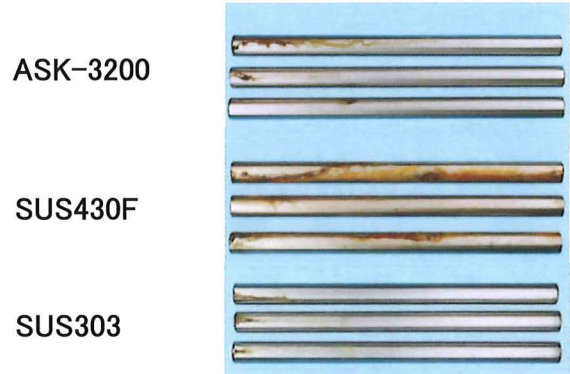
The relationship of machinability and corrosion resistance



被削性指数 Machinability



塩水噴霧試験 Salt spray test



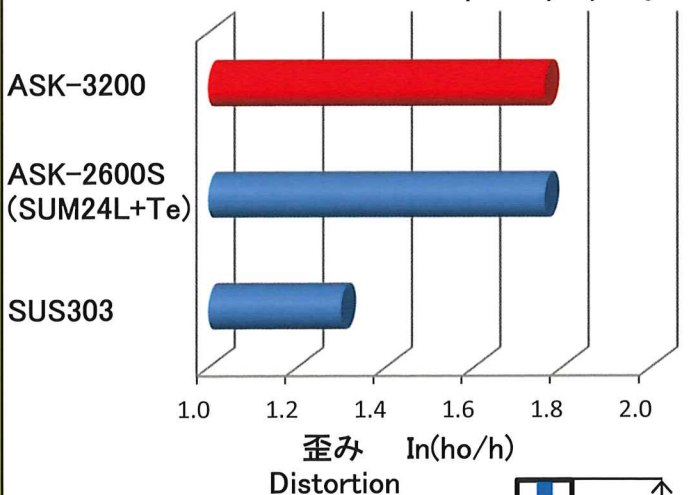
- ~試験条件 (Test condition)~
- ① 共試材 (Sample dia) : $\phi 10.00$
 - ② バイト (Turning tool) : P-20(0,6,6,8,0,0,1)
 - ③ 切り込み (Cutting depth) : 1mm
 - ④ 送り (Cutting feed rate) : 0.1mm/rev
 - ⑤ 切削速度 (Cutting speed) : 70m/min
 - ⑥ 乾式 (Dry condition)
- ※SUS303の切削抵抗を100として比較
This shown rate for the cutting resistance at SUS303 is 100.

~試験条件 (Test condition)~

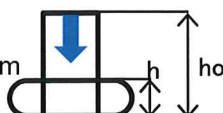
JIS Z 2371に基づき、96hrs連続の塩水噴霧試験結果
Salt spray test JIS Z 2371 96hrs.

冷間加工性 Cold press property

Cold press property

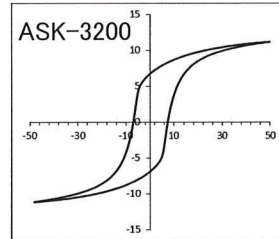


※アップセット試験片... $\phi 6 \times 11.5\text{mm}$
Upsetting test piece



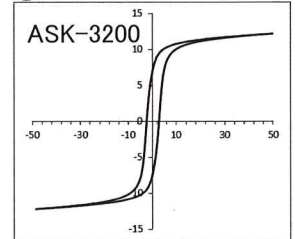
磁気特性 Magnetic characteristic

Magnetic characteristic



磁気焼鈍前

Before magnetic annealing



磁気焼鈍後

After magnetic annealing

	残留磁束密度 Br		保持力 Hc	
	Residual magnetic flux density		Coercive force	
	磁気焼鈍前 Before annealing	磁気焼鈍後 After annealing	磁気焼鈍前 Before annealing	磁気焼鈍後 After annealing
ASK-3200	6830 G (0.683 T)	7204 G (0.720 T)	7.15 Oe (569 A/m)	2.52 Oe (201 A/m)
ME1F	8891 G (0.889 T)	9985 G (0.999 T)	3.64 Oe (290 A/m)	1.43 Oe (114 A/m)
ASK-2600S	8234 G (0.823 T)	8854 G (0.885 T)	5.85 Oe (465 A/m)	2.65 Oe (211 A/m)

(Sample $\phi 10.00$)