

NAS633 (UNS S35000)

High Strength Stainless Steel

NAS633 is a semi-austenitic precipitation-hardening stainless steel. It has excellent workability after solution heat treatment and also offers good weldability. High strength can be achieved through heat treatment.

Steel Grade/Standard

Nippon Yakin Grade	ASTM A693
NAS633	UNS S35000

Chemical Composition

	C	Si	Mn	P	S	Ni	Cr	Mo
Specification (ASTM A693 TYPE633)	0.07 ~0.11	≤0.50	0.50~ 1.25	≤0.040	≤0.030	4.0~ 5.0	16.0~ 17.0	2.5~ 3.2

[wt %]

Mechanical Properties and Hardness

Table 1: Mechanical properties ASTM A693

Thickness (mm)	Heat Treatment	Finish	Proof stress (N/mm2)	Tensile strength (N/mm2)	Elongation (%)	Hardness (HV)
0.05~0.13 excl	Solution	BA	≤595	≤1380	≥8	≤302
0.13~0.25 excl	Solution	BA	≤585	≤1380	≥8	≤302
Over 0.254	Solution	BA	≤585	≤1380	≥12	≤302
Example 0.254	Solution	BA	481	1230	23	256

Table 2 Example of mechanical properties after SCT

Treatment	Processing conditions	Thickness (mm)	Proof stress (N/mm2)	Tensile strength (N/mm2)	Elongation (%)	Hardness (HV)
Ageing SCT850	930°Cx10min ⇒ -73°Cx3hr⇒455°Cx3hr	0.254	1413	1605	8	465

Production capability

Finish : BA
Thickness : 0.05mm ~ 0.5mm
Width : 5mm ~ 510mm

Application

Welded bellows, Formed bellows



For more information, please contact:
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