

01. SN Steel

Structural Steels for Buildings

SN steels are recommended to apply to the structural members in which inelastic deformations are anticipated.

■ Deformation index, which represent the seismic performance of steel materials, is introduced to SN steels along with weldability & toughness indexes.

1. Upper limit for yield point and ratio of yield point.
⇒ Securing the plastic deformation capacity in frame.
2. Upper limit for Carbon equivalent (Ceq)
⇒ Securing the weldability.
3. Lineup of 3 types of steel (A-, B-, and C-type)
⇒ Multiple choices of steel types
according to the applications.
4. As for C-type, Rigorous control of P and S amount and through thickness properties.
⇒ Securing mechanical properties
in through-thickness directions.

Designation	Thickness mm	Specified Properties				
		Strength • Toughness				Weldability
		Δ YP, Δ TS, YR80%	Charpy Impact Test	Through- Thickness property	Ultrasonic Test (plates)	Ceq (P,S etc.)
S355J0 TS470 YP345 Mpa	$16 \leq t \leq 250$	–	●	–	–	● (CEV)
SN490 TS490 YP325 Mpa	$16 \leq t \leq 100$	●	●	●	●	●

Applicable Sector

	H-beam, thick plate, and others 		Circular steel tube 	Rectangular steel tube 
For general structure	JIS G3101	JIS G3106	JIS G3444	JIS G3466
	SS400 SS490	SM400A, B, C SM490A, B, C	STK400 STK490	STKR400 STKR490
For building structure	JIS G3130		JIS G3475	Minister certification
	SN400A, B, O SN490B, C		STKN400W, B STKN490B	BCR295 BCP235, 325

Feature

Item Standard	Seismic resistance		Weldability					Through-thickness property	Thickness-direction property
	YR Upper limit	YP Upper limit	$\sqrt{E_0}$ Lower limit	C Upper limit	P Upper limit	S Upper limit	Ceq Lower limit		
SS400	x	x	x	x	0.050	0.050	x	x	x
SM400A SM490A	x	x	x	0.23 0.20	0.035	0.035	x	x	x
SM400B SM490B	x	x	27J	0.20 0.18	0.035	0.035	x	x	x
SM400C SM490C	x	x	47J	0.18	0.035	0.035	x	x	x
SN400A	x	x	x	0.24	0.050	0.050	x	x	○
SN400B SN490C	80%	○	27J	0.20 0.18	0.030	0.015	0.36 0.44	x	○
SN400C SN490C	80%	○	27J	0.20 0.18	0.020	0.008	0.36 0.44	○	○

Track Record

<Supplied Amount in 2011>
572,157 ton

Cost

To get information, please ask the contact shown below.

Contact

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