

KAWASAKI STEEL TECHNICAL REPORT

No.17 (October 1987)

Properties of 390- and 415-MPa Yield Strength Steel Plates with

1. 200 145 MPa Yield Strength (YD 40 kgf/mm²)

with Good Toughness in Large Heat Input Welded Joints*



Synopsis:

Yield strength: 1200 MPa, yield strength (YD 40 kgf/mm²)

Table 1 lists the aimed properties of the steel plates developed in both directions and the aimed properties. The addition of rare earth (REM) and Ti were made.

(3)

Synthetic HAZ $T_p = 1350^\circ\text{C}$		
	$\Delta t_{800-500^\circ\text{C}}$ (s)	HI (25 mm SAW) (kJ/cm)
○	230	220
□	100	110

which increase strength without deteriorating HAZ toughness.

4 Properties of YP390-MPa and YP415-MPa Steel Plates

[REDACTED]

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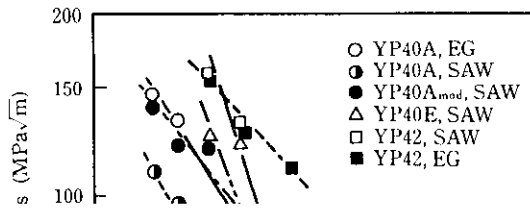
crack was observed in all the plates tested at 0°C, indicating that the temperature for preventing root cracking is lower than 0°C.

4.4 Strain Aging Properties

The strain aging properties of the plates were studied

Table 7 Welding conditions

Steel	Plate thickness (mm)	Welding method	Groove shape (mm)	Electrode	Cur. (A)	Volt. (V)	Speed (cm/min)	Heat input (kJ/cm)
		One-side		L	1500	35		



5 Conclusions

The steel plates for large heat input welding, which had been developed as YP390-MPa steel for ship hull structures and YP415-MPa steel for offshore structures