

Foreword

C: NOTE

1. About high-tensile steel sheets of 980 MPa Class or more

The usable parts of high-tensile steel sheets of 980 MPa Class or more should be welded under the following conditions.

- It is recommended to perform spot welding according to board thickness and number of overlapping sheets under the following conditions ([a] — [f])
- When spot welding conditions cannot be met, plug weld 980 MPa class following [g] or [h] conditions, and 1,500 MPa class following below [i] or [j] conditions.

Spot welding	[a]	Compression	3.0 kN	Total number of 2 overlapping sheets
		Current	6.0 kA	
		Welding time	15 cyc	
	[b]	Compression	4.0 kN	
		Current	6.5 kA	
		Welding time	15 cyc	
	[c]	Compression	3.0 kN	Total number of 3 overlapping sheets
		Current	6.5 kA	
		Welding time	25 cyc	
	[d]	Compression	3.5 kN	
		Current	7.0 kA	
		Welding time	25 cyc	
[e]	Compression	3.5 kN		
	Current	7.5 kA		
	Welding time	16 cyc		
[f]	Compression	4.4 kN		
	Current	8.0 kA		
	Welding time	20 cyc		
Plug welding	[g]	Plug diameter	8 mm or more	Total number of 2 or 3 overlapping sheets
		Wire	YGW12	
		Gas	CO2	
	[h]	Plug diameter	8 mm or more	
		Wire	YGW16	
		Gas	Gas mixture (argon: 80 %, CO2: 20 %)	
	[i]	Plug diameter	8.5 mm	
		Wire	YGW12	
		Gas	CO2	
	[j]	Plug diameter	8.5 mm	
		Wire	YGW16	
		Gas	Gas mixture (argon: 80 %, CO2: 20 %)	

CAUTION:

- For new spot welding, avoid previously welded locations.
- After spot welding, inspect the welding locations, and if the weld appears to be insufficient, perform plug welding.
- To avoid loss of strength, do not use heat repair or patch welding to repair the usable parts of high-tensile steel sheets of 980 MPa class or more.

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2. Hole drilling for plug welding

At locations where spot welding is not possible, use a punch or a drill to open holes for plug welding according to the following table.

Plate thickness of the welding material	Plug welding hole diameter
Less than 1.0 mm (0.04 in)	φ5.0 mm (0.20 in) or more
1.0 — 1.6 mm (0.04 — 0.06 in)	φ6.5mm (0.26 in) or more
1.7 — 2.3 mm (0.07 — 0.09 in)	φ8.0mm (0.31 in) or more
2.4 mm (0.09 in) or more	φ10.0 mm (0.39 in) or more