

WELDREAM™

Flux-cored arc welding wire

SF-309SD

Applicable without ***Varnish / Painting****
for SuperDyma™, ZAM™ and ZEXEED™ steel

*Under specified conditions. Refer to details test data.

SF-309SD is a flux-cored arc welding wire for CO₂ gas shield.

This product developed for SuperDyma in combination with ZAM and ZEXEED verified that no zinc cracking was observed under test conditions, it offers enhanced corrosion resistance without post-weld painting as well as weld joint performance equal to or better than that of the base metal.

Therefore, SF-309SD can be used for welding SuperDyma, ZAM and ZEXEED to help extend the service life and improve the performance of structures.

We offer a lineup of S-309SD-R covered arc welding electrode. These welding materials will enhance welding quality, improve work efficiency, and help reduce overall costs for the customers.



Corrosion Resistance of Welded joint

Test time hr	General flux-cored wire for carbon steel		SF-309SD	
	Base metal: SuperDyma Sheet thickness: 8.2mm K14		Base metal: SuperDyma Sheet thickness: 8.2mm K14	Base metal: ZAM Sheet thickness: 3.2mm K14
	No painting	Painting	No painting	
0				
1,000				

SuperDyma, ZAM and ZEXEED are trademarks or registered trademarks of NIPPON STEEL CORPORATION.

Applications

Welding of SuperDyma, ZAM and ZEXEED Nippon Steel Corporation's highly corrosion-resistant coated steel sheets.

Characteristics

- 1 Since corrosion resistance equal to that of **SuperDyma, ZAM and ZEXEED** can be obtained in **unpainted welded metal**, may not be required depending on the conditions.
- 2 It offers high strength and tensile performance comparable to the base metal under the test conditions.
- 3 Excellent bead appearance.
- 4 This wire is seamed structure, then the product quality maintains longer than the fold type.
- 5 Wire diameters are 0.9 and 1.2 mm ϕ ; also available in large-capacity drum pack.

Typical mechanical performance

Table 1: Typical mechanical properties of all-weld metal

Brand name	Shield gas	Tensile test			Impact test
		0.2% proof stress MPa	Tensile strength MPa	Elongation %	vE0°C J
SF-309SD	100%CO ₂	612	683	19	28

Table 2: Typical mechanical properties of welded joint (butt weld joint, flat position)

Steel sheet	Sheet thickness mm	Coating amount	Joint tensile test results		Impact test results		
			Tensile strength MPa	Break location	Test piece size	vE0° C J	Impact value J/cm ²
SuperDyma	2.3	K27	525	Base metal	—	—	—
	3.2	K27	513	Base metal	2.5mm sub	11	55
	6	K27	508	Base metal	5.0mm sub	23	58
ZAM	2.3	K14	455	Base metal	—	—	—
	3.2	K14	454	Base metal	2.5mm sub	11	55
	6	K27	441	Base metal	5.0mm sub	23	58
JIS Z3302 hot-dip galvanized steel sheet	3.2	Z27	502	Base metal	2.5mm sub	12	60

Wire diameter and the product packaging units

Brand name	Wire diameter mm	Packaging unit
SF-309SD	0.9 ϕ	5kg and 10kg spool
	1.2 ϕ	12.5kg and 20kg spool / 100kg drum pack

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Warning!

Fumes and gas may be hazardous to your health. Please take appropriate preventive measures such as the implementation of ventilation as well as wearing a protector for breathing. Arc light is harmful to the eyes and skin. Please use appropriate shielding measures. Please do not touch anything where electricity is activated. It may cause death.

Request to Customers

- 1 Various data of distinctive features such as welding consumables, all-weld metal, weld metal, etc. shown in this catalog are provided for general information only and represent typical values. They do not constitute any representation or guarantee of performance, quality, or suitability for any specific application unless expressly agreed as specifications.
- 2 The properties and performance of welded structures, which cannot be determined by welding consumables alone, may vary depending on various factors such as structural design, chemical composition of base materials, fabrication method, welding conditions, environment, and operator skill. Users are solely responsible for evaluating and determining the suitability of the products for their intended applications, and appropriate verification and testing are recommended prior to use.
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