

SOREX WELDING CO.,LTD.

「Weathering Steel Welding Package」

SOREX[®]
The Professional Quality



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「Weathering Steel Welding Package」

Weathering Steel is advantageous to the atmospheric corrosion. It contains a small amount of Cr, Ni, Cu, and P elements to form up a protective layer on the surface for slowing down the corrosion.

It is in a range of 2~8 times capable of the atmospheric corrosion to the general carbon steel. It is mainly using for vehicle, bridge, containerizing, construction, and gantry(crane) for lifespan longer.

Coach



Crane



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「Weathering Steel Capability」

Q355NH belongs to weathering steel, GB/T4171-2008 (Weathering Structural Steel) to Q355NH capability required as follows :

1. Chemical Composition

C	Si	Mn	P	S	Cr	Ni	Cu
≤0.16	≤0.5	0.5~1.5	≤0.03	≤0.03	0.4~0.8	≤0.65	0.25~0.55

2. Mechanical Property

Thickness	Yield Strength Rel(MPa)	Tensile Strength Rm(MPa)	Elongation A(%)
≤16mm	≥355	490~630	≥22
16~40mm	345		≥22
41~60mm	335		≥21
>60mm	325		≥20

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「Atmospheric Corrosion Index」

Atmospheric corrosion index (I) is an important index to gauge the material capability; the larger the index (normally ≥ 6.0), the better atmospheric corrosion resistance.

「Atmospheric Corrosion Index (I)」 Formulation :

$$I = 26.01(\%Cu) + 3.88(\%Ni) + 1.20(\%Cr) + 1.49(\%Si) + 17.28(\%P) - 7.29(\%Cu)(\%Ni) - 9.10(\%Ni)(\%P) - 33.39(\%Cu)^2$$

Sorex Welding Package

Sorex Item	Classification
SW-78W1(SMAW)	AWS A5.5 E7018-W1

Typical Performance

Main Composition (wt%)	Atmospheric Corrosion Index (I)	Tension Test Rm/Rel/A (Mpa/Mpa/%)	Impact Test (J/°C)
Cr: 0.19 Ni: 0.33 Cu: 0.46 P: 0.018	6.23	566/475/26	≥ 60 / -40

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