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ZEX

ZEXEED™
Checkered Sheet

EED



ZEXEED™ Materials to support the future

"ZEXEED™" is a pre-coated steel sheet featuring the ultimate corrosion resistance, which was successfully commercialized by Nippon Steel Corporation for the first time in the world. An alloy coating consisting primarily of zinc, with 19% aluminum, 6% magnesium, and trace amounts of silicon realizes anti-corrosion performance on flat surfaces, roughly ten times that of hot-dip galvanized steel sheet (GI), and roughly twice that of conventional high-corrosion resistant-coated steel sheet.



What is ZEXEED™ Checkered Sheet?

High-Mg corrosion resistant ZEXEED™ is coated on checkered steel sheets.

It offers both anti-slipping performance with a precise and uniform checkered pattern and high corrosion resistance.

◆ Features of ZEXEED™ Checkered Sheets ◆

1 Corrosion resistance approx ten times higher than that of hot-dip galvanized checkered sheets (GI).
(Compared by conducting 120 cycles of the JASO-CCT corrosion promotion test)

2 Thin sheets with a thickness of 2.3 to 3.0 mm are available. They are difficult to handle with dip coating.*

3 Enabling reduction in dip coating* processes and transportation costs.
⇒ Reduction in lead-time and workload for handling and other work

4 Excellent flatness.
(There is only minor thermal deformation due manufacturing with the continuous hot-dip galvanizing facility)

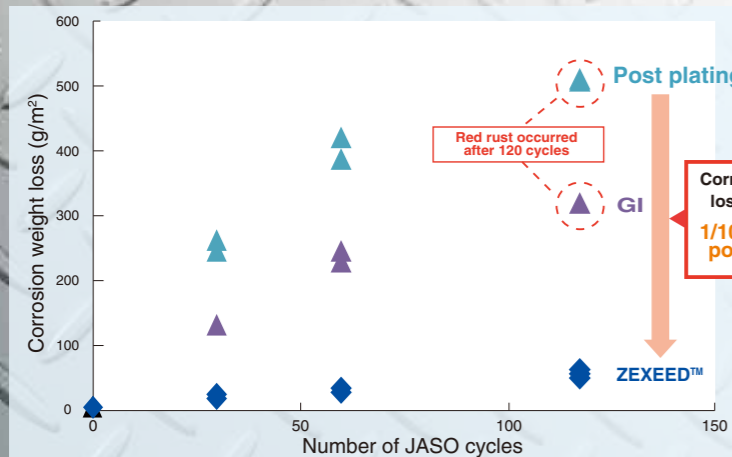
5 Excellent scratch and wear resistance due to high coating hardness (ZX: 280 Hv, Zinc: 50 Hv).

6 Excellent processability.
(Facilitates bending processes because of high coating adhesion)

*"Dip coating" refers to post-plating.

◆ Corrosion Resistance of ZEXEED™ Checkered Sheets ◆

■ Corrosion weight loss measurement results (JASO-CCT)



■ Corrosion resistance of flat surfaces: JASO-CCT (120 cycles)

※Lower part: Coating mass

Material	Coating mass (g/m²)
ZEXEED™ Checkered Sheet	377g/m²
GI checkered sheet	267g/m²
Post-plated checkered sheet	522g/m²

■ Corrosion resistance of a part bent to 90°: JASO-CCT (180 cycles)

Test conditions
JASO M609-91
(8 hours/cycle)

- Salt spray : 2 hours at 35°C, 5% NaCl
- Drying : 4 hours at 60°C, 20 to 30% RH
- Wetting : 2 hours at 50°C, 95% or higher RH

Part bent to 90°

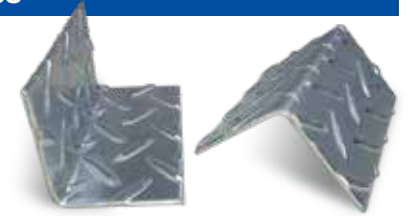
Corrosion weight loss is approx. 1/10 of that of post plating.

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Standards, Manufacturable Ranges, and Masses

1. Types

Type symbol	Application	Mechanical characteristics		
		Yield point N/mm²	Tensile strength N/mm²	Elongation %
NSTHC-CP	For general use	—	—	—
NSTH400-CP	For structural applications	YP≥295	TS≥400	≥18%



2. Plating deposit

Type symbol	Plating deposit display symbol	3-point average minimum deposit per side g/m²
NSTHC-CP	180	80 (both checkered and back sides)
NSTH400-CP		

3. Chemical treatment

Type symbol	Chromate-free treatment
NSTHC-CP	QM
NSTH400-CP	

4. Dimensional tolerance Product thickness tolerance (For general use: HSTHC-CP)

Indicated thickness	Width (mm)		
	< 1,200	1,200 to < 1,500	1,500 to 1,524
2.3 to < 2.5	±0.18	±0.20	±0.22
2.5 to < 3.15	±0.20	±0.22	±0.25
3.15 to < 4.0	±0.22	±0.24	±0.27
4.0 to < 5.0	±0.25	±0.27	±0.29
5.0 to 6.0	±0.27	±0.29	—

Product thickness tolerance (For structures: NSTH400-CP)

Indicated thickness	Width (mm)
	1,524 or less
2.3 to < 2.5	±0.21
2.5 to < 3.15	±0.23
3.15 to < 4.0	±0.25
4.0 to < 5.0	±0.46
5.0 to 6.0	±0.51

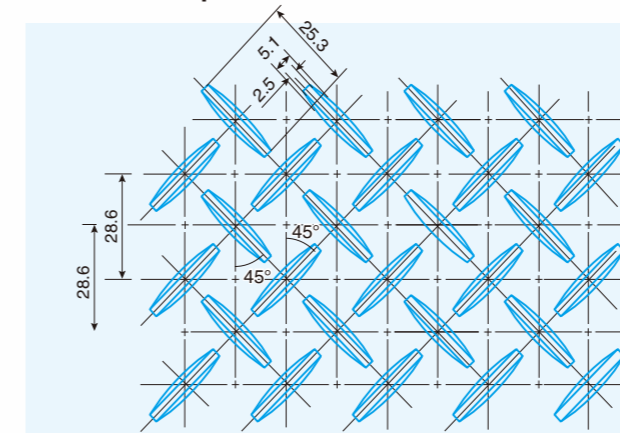
5. Equivalent plating thickness

Type symbol	Plating deposit display symbol	Equivalent plating thickness
NSTHC-CP	180	0.061
NSTH400-CP		

6. Plating amount constant

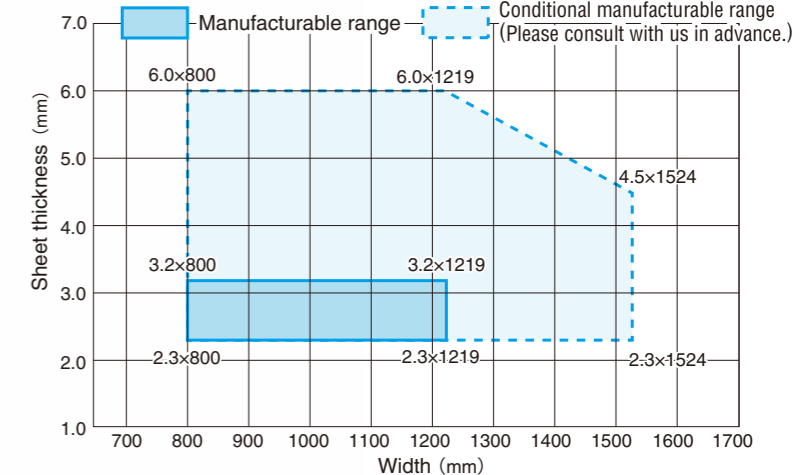
Plating deposit display symbol	Plating amount constant (kg/m²)
180	0.180

7. Checkered pattern dimensions



Note: This checkered pattern is NIPPON STEEL's registered design.

8. Manufacturable range



9. Table of standard dimensions and masses

Thickness mm	Unit mass kg/m²	Width×Length (mm) (The lower part shows a common name.)					
		914×1,829 (3×6)	1,219×2,438 (4×8)	1,219×3,048 (4×10)	1,219×6,096 (4×20)	1,524×3,048 (5×10)	1,524×6,096 (5×20)
2.3	19.91	33.3	59.2	74.0	148	92.5	185
3.2	26.97	45.1	80.2	100	200	125	251
4.5	37.17	62.1	110	138	276	173	345
6.0	48.95	81.8	145	182	364	—	—

Examples of Candidate Application

Application ① Parking lot pallets

Application ② Parking lot floor plates

Application ③ Inspection port cover

Application ④ Stair steps