

GEOMET®

Advanced Coating Technology



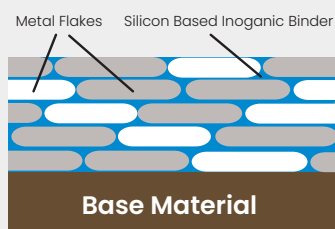
WASCA

Next Generation Coating Technology

Across Australia and worldwide, industries are moving toward safer, more sustainable manufacturing. As hexavalent chromium is phased out, demand has grown for environmentally responsible alternatives.

In response, NOF Metal Coatings and the NOF Metal Coatings Group developed GEOMET®—a next-generation, water-based zinc flake coating delivering superior corrosion and chemical resistance without chromium.

Built on over 30 years of proven DACROTIZED® technology, GEOMET® 720 sets the benchmark for eco-friendly surface protection, offering exceptional durability, consistent performance, and compliance with global standards.



Film Structure of GEOMET®

GEOMET coating film has a silver-metallic look. Layers of metal flakes are connected with one another through the use of a special inorganic binder. Because the film is extremely thin—only about 8µm—it won't negatively affect the optimal fit between bolts and nuts. 2C2B is the standard manufacturing process.

FEATURE #1

Environmentally Responsible

Non-polluting and environmentally responsible, GEOMET® is an advanced water-based coating technology completely free of chromium, delivering exceptional corrosion protection while supporting sustainable manufacturing practices.



Water Based Chemical Solution

GEOMET® coating is designed with environmental responsibility in mind, using an aqueous liquid rather than solvents. This simple, efficient surface treatment requires minimal equipment and supports cleaner, safer working environments.



Completely Chromium-Free

GEOMET® coating contains no chromium compounds in either its process or film. Fully compliant with global ELV regulations, it provides a safe, sustainable alternative to traditional chrome-based protection systems.



Closed System Coating Process

The GEOMET® process operates within a closed, no-drainage system. During baking, emissions are primarily harmless steam, containing no toxic substances restricted under environmental regulations.

FEATURE #2

Superior Corrosion Resistance

GEOMET® coating delivers outstanding resistance to salt spray and cyclic corrosion tests (JIS-Z-2731), providing exceptional long-term protection, superior durability, and proven performance under the harshest environmental conditions.

GEOMET® 720

After 2000 hours salt spray test



Combined corrosion test (40 cycles)



Electro-Galvanising

After 480 hours salt spray test



Continued Corrosion Test (15 cycles)



FEATURE #3

Exceptional Heat Resistance

GEOMET® coating delivers exceptional heat resistance, maintaining film strength and stability at temperatures beyond 100°C, unlike electro-galvanised coatings that rapidly deteriorate and lose protection under heat.

GEOMET® 720

Surface conditions after 8 hours heating test at 300°C



After 2000 hours salt spray test



Electro-Galvanising



After 480 hours salt spray test



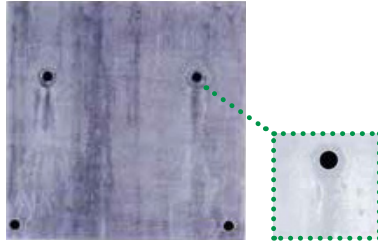
Long Lasting Protection

GEOMET® coating minimises zinc consumption and galvanic corrosion with aluminium, offering lasting surface protection and effectively reducing stainless-steel potential to prevent pitting corrosion under direct metal contact.

GEOMET® 720

SUS bolts & nuts

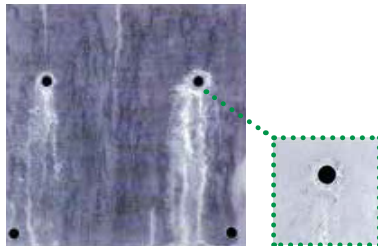
Contact point after test
No abnormality seen



Uncoated

SUS bolts & nuts

Contact point after test
Pitting corrosion observed



Galvanic Corrosion Test

A galvanic corrosion test was conducted to evaluate the performance of GEOMET® 720-coated stainless steel bolts when fastened into aluminium panels. The test simulated long-term environmental exposure to assess corrosion resistance under realistic assembly conditions.

TEST SPECIFICATIONS

- Test type: Galvanic corrosion test by tightening stainless bolts into an aluminium panel
- Test sample: GEOMET® 720-coated and uncoated SUS304 M6 bolts and nuts
- Mating material: Aluminium panel conforming to JIS H 4000, 5.0 × 70 × 150 mm
- Test condition: Each SUS bolt was tightened into the aluminium panel at the specified torque, then subjected to a salt spray test (JIS Z 2371) for 3,000 hours
- Tightening torque: 60 Kgf·cm

Durable Coating Properties

GEOMET® forms a durable, consistent rustproof film even on inner pipe surfaces unreachable by galvanising, ensuring superior, long-lasting corrosion protection across complex shapes, threads, and hard-to-coat areas.



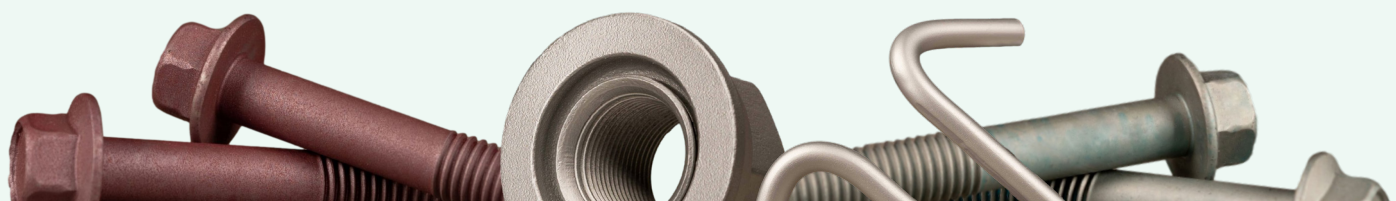
GEOMET® 720

Interior wall after 2,000
hours of salt spray test



Electro-Galvanising

Interior wall after 192
hours of salt spray test



FEATURE #6

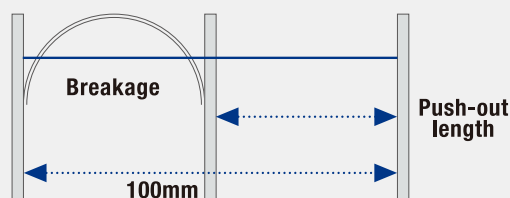
No Hydrogen Embrittlement

GEOMET® coating completely eliminates concern for hydrogen embrittlement, as verified through delta gauge testing, showing no measurable difference in strength or integrity compared to uncoated or DACROTIZED materials.

Pushout Length Until Breakage (mm)

GEOMET® 720	Galvanising	Uncoated
83.1	24.9	83.9
83.1	24.4	84.8
83.9	31.0	84.9
84.2	35.1	82.0
82.3	28.8	82.4
83.0	35.4	84.6
82.2	35.4	84.6
83.1	30.7	83.9

Brittleness Check Test



The brittleness check test was conducted using the Delta gauge method (by Delta Research) at the Chiba Prefectural Machinery & Metallurgy Research Institute.

TEST SPECIFICATIONS

- Base material: SK5 steel, 1×10×100 mm (hardness Hv=52).
- Coating specifications: GEOMET® 720, DACROTIZED®, and Galvanising/Yellow Chromate (JIS Type 2-3).
- Coating method based on each standard method.

FEATURE #7

Overcoating Capabilities

GEOMET® coating demonstrates outstanding overcoat compatibility with solvent-type melamine alkyd resin and powder coatings, achieving excellent surface appearance, strong cross-cut adhesion strength, and consistent performance after curing.

Coating Cross-Cut Adhesion Performance

Specification	GEOMET®	Appearance	Cross-Cut Adhesion
Melamine Alkyd Coating	1C2B	Excellent	Excellent
Melamine Alkyd Coating	2C2B	Excellent	Excellent
Powder Coating	2C2B	Excellent	Excellent

Cross-Cut Test

A visual inspection and cross-cut adhesion test were carried out to assess the surface appearance and coating adhesion strength of GEOMET® 720 coatings with and without overcoats.

TEST SPECIFICATIONS

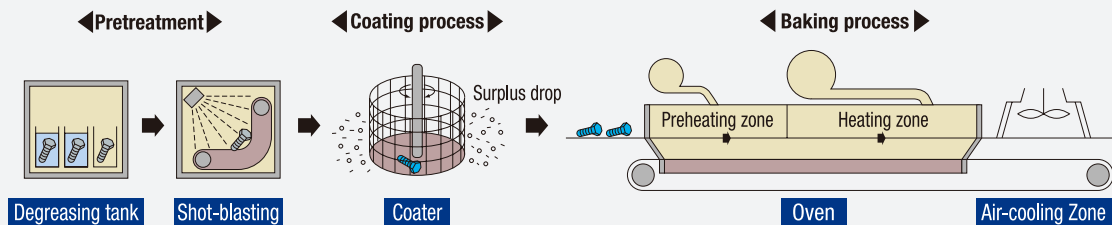
- Test items: Appearance (visual inspection) and cross-cut adhesion strength (using adhesive).
- Base material: SPCC-SD, 0.8 × 70 × 150 mm.
- Coating specifications: GEOMET® 720 coating (1C1B 125 mg/dm²) and GEOMET® 720 coating (2C2B 250 mg/dm²).
- Overcoat specifications: Solvent-type melamine alkyd resin baking coating and powder coating.
- Coating method: Based on each standard method.

Application Process Overview

GEOMET® coatings are applied using advanced dip-spin and spray methods. Each process ensures precise, uniform coverage and consistent film thickness for optimal corrosion protection and performance across components.

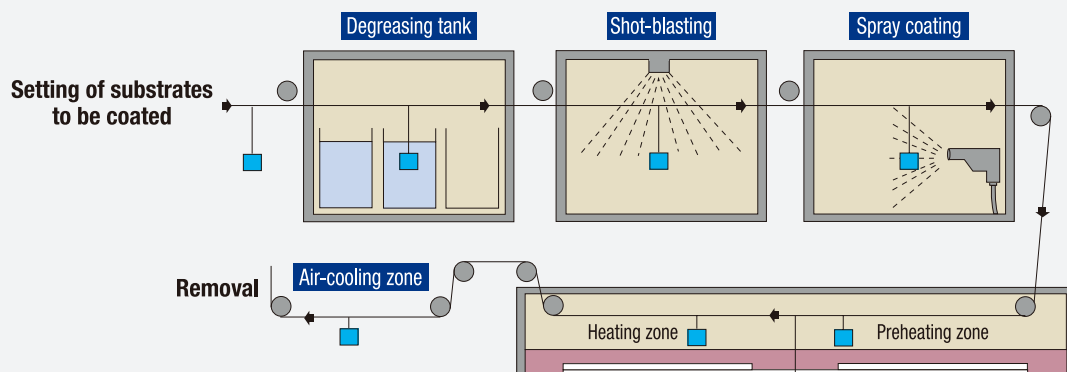
Dip Spin Method

2C2B is employed as the standard process



*The coating process and baking process are both performed twice.

Spray Method



GEOMET® is Available Worldwide

GEOMET® is a patented surface treatment developed by NOF Metal Coatings North America and applied globally through an authorised network. With over 600 coating lines in operation worldwide and new ones continually added, GEOMET delivers proven, high-performance corrosion protection across key international markets.

PRODUCT DISCLAIMER

A Note to the Customer The performance data shown in this catalogue was obtained using the internal test procedures of NOF METAL COATINGS. NOF METAL COATINGS shall not guarantee that the user will obtain identical performance levels, given the varying conditions in which GEOMET® is applied.



Meeting Global Automotive Standards

GEOMET® coatings meet a wide range of global automotive and industrial standards. The following table lists major manufacturer specifications confirming GEOMET's proven performance, reliability, and worldwide approval.

Manufacturer	Specification	Manufacturer	Specification
ALSTOM TRANSPORT	DTRF 150217C, 150213, 150611	JOHN DEERE	TL 011/D
AUDI	TL193	KOMATSU	KES 58.342.2
BAE SYSTEMS	3000099	MACK TRUCK	20123677
BMW	GS 90010	MAZDA	MFS CG 311F
BOSCH	O 204 182 119-Type1, N67F 827.04	MERCEDES BENZ	DBL 9440
CATERPILLAR	1E1675	MITSUBISHI	MS 82-3710
CHRYSLER	PS-9666, PS-5873L, PS-5873P, PS-5873-Black	NISSAN	M4601
CUMMINS	74059, 74061, 74062	OPEL	GME 00255
DAF	W+O**/493/494/496	RENAULT	01-71-4002/F, 01-71-002/J
DAIMLER	DBL9440.40, DBL94440.50	SCHNEIDER ELECTRIC	ABD00048
DANA	ES-PS-0618	SIEMENS AG	SN 60056
FIAT	Capitolato 9.57513	SIEMENS WIND	ZPS 1038850
FORD	WSS-M2IP39-A1 A2 A3 A4 A5, WSD-M2IP13-A1, WSS-M2IP49-A1 A2 A3 A4 A5, WSS-M2PI78	SUBARU	TS430-9-9
GE RENEWABLE ENERGY	P14A-WE-0218	TESLA	TM-0010F-M
GM	GM6173M, GM3359, GMW14, GME00 255	TOYOTA	TSH7702
HENDRICKSON	HETS-1213, HETS-1011-6, 26408	TOTAL	GS EP COR 356
HONDA	D2008	TRW	TS 2-25-60-Class C, D, E, F
ISUZU	ISC-B22-0038	VOLVO	VCS 5737.29, STD 5737.2
IVECO	18-1101	VW	TL193, TL245
JIS / ISO	JIS B 1046, ISO 10683		

GEOMET® Coatings

Base Coat

Coating	Colour	Corrosion Protection	Temperature	Static Friction
GEOMET® 720HP	 Metallic Silver	1,000–2,000 h	Up to 300°C	0.19–0.23
GEOMET® 720	 Metallic Silver	720–2,000 h	Up to 300°C	> 0.20
GEOMET® 500	 Metallic Silver	720–2,000 h	Up to 300°C	0.12–0.18
GEOMET® 321	 Metallic Silver	720–2,000 h	Up to 300°C	> 0.20

GEOMETPLUS® Coatings

Top Coat

Coating	Colour	Density	Coating Weight	Static Friction
GEOMETPLUS® Clear	 Clear	1.13±0.03 g/cm ²	3–6 g/m ²	–
GEOMETPLUS® ML Black	 Black	1.13±0.05 g/cm ²	8–12 g/m ²	0.10–0.16
GEOMETPLUS® JL Blue	 Blue	1.13±0.03 g/cm ²	3–6 g/m ²	0.14–0.20
GEOMETPLUS® KL Clear	 Clear	1.11±0.03 g/cm ²	3–6 g/m ²	0.19–0.27
GEOMETPLUS® M	 Clear	–	2–5 g/m ²	0.12–0.18
GEOMETPLUS® WS	 Clear	1.07±0.03 g/cm ²	5–7 g/m ²	–
GEOMETPLUS® XL Red	 Red	1.07±0.03 g/cm ²	7–9 g/m ²	0.05–0.09
PLUS® L	 Clear	–	1–2 µm	0.08–0.14
PLUS® VL	 Clear	–	1–2 µm	0.09–0.14



Explore the Possibilities

Discover the unmatched protection and precision of GEOMET®. To learn more about how GEOMET® can benefit your specific applications, contact your official Australian GEOMET® representative, WASCA, on (03) 9763 0833 or via email sales@wasca.com.au.

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GEOMET®



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