

DELTA®-SEAL GZ SCHWARZ

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DELTA®-SEAL GZ SCHWARZ is a topcoat for a zinc flake basecoat or for other metallic substrates. In a system e.g. made of basecoat + topcoat, it is responsible for multifunctional characteristics such as a defined coefficient of friction window, resistance to media, colouring etc. Additionally, it can enhance the corrosion protection properties of the basecoat. The DELTA®-SEAL GZ SCHWARZ is applied via a non-electrolytic application technique directly onto the substrate (part). The zinc flake technique is described in the standards DIN EN ISO 10683 and DIN EN ISO 13858. The application technology can vary according to the dimension and weight of the part; e.g. small parts are usually coated as dip-spin, bigger parts are usually spray coated. All Dörken MKS products have always been free of harmful heavy metals such as chromium VI. As there is no hydrogen involved during the application process, there is no danger of application-related hydrogen-induced stress corrosion cracking.

CATEGORY



DS-Topcoat

REQUIREMENTS

Corrosion resistance

- delays galvanic corrosion
- enhances the corrosion protection of the basecoat

Special features

- organic
- solvent-based
- integrated lubricant
- gaugeability
- compatible for patching
- over-paintable

Weathering resistance

- fulfils the requirements of natural outdoor exposure according to DIN EN ISO 12944-2

Defined coefficient of friction window

- $\mu_{\text{tot}} = 0,09-0,14$ (VDA 235-101 & DBL 9440)
- $\mu_{\text{tot}} = 0,12-0,18$ (Ford S307)
- prevents stick-slip effects as according to VDA 235-203

Media resistance

- fulfils chemical resistance against laboratory chemicals according to DIN EN ISO 2812
- fulfils chemical resistance against operating fluids according to DIN EN ISO 2812
- fulfils fertilizer resistance as per customer specification AMAZONE

Adhesion

- fulfils the requirements of the bend test (conical mendril) acc to DIN EN ISO 6860.
- fulfils the requirements of cupping test acc to DIN EN ISO 1520.

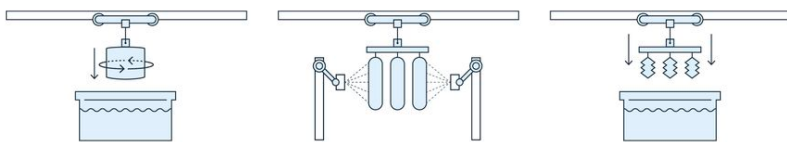
Resistance against

- Corrosion resistance
- Media resistance
- Weathering resistance
- Resistance against mechanical influence
- Defined coefficient of friction window

Surface / Substrate

- zinc flake basecoat
- stainless steel
- zinc die cast
- aluminum die cast
- passivated zinc/zinc alloys
- Phosphat
- typical dry film thickness of 4-20 µm
- Even layer construction possible.
- The technical feasibility depends on pretreatment and individual characteristics of each material.

Application technology



dip-spin

spray

dip-drain

Legal conditions

- meets the EU End-of-Life Vehicle Directive 2000/53/EC
- meets the RoHS 2 guidelines (also known as EU Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment 2002/95/EC)
- meets the REACH requirements

Contact Person

- Thorsten Speck

SELECTION OF SUITABLE PARTS

Advised parts



Washers

Big parts

Panels

Metrical threaded
bolts >M16

Metrical threaded
bolts M2-M16



Non metrical
threaded parts

Clips

Stamped parts

Nuts

Pipes and tubes



Brake parts

Bearings

Springs

Suitable parts



Rivets

SPECIFICATIONS

ASTM - F 1136	Alstom Transport - DTRF 150217 C
ArvinMeritor - AM P104	Avdel - Threaded Inserts
Avdel - Fastriv® Self-piercing Rivets	Avdel - Breakstem Systems
Bosch - N67F 827	Bossard - EV Engineer appendix Rev. 08
Brembo - BDS-11.22	Brose - BN590295-109
Case New Holland - MAT0320	Chongqing Changan - GY-TY-19-2017
Continental Teves - ATE N 106 36.31	Continental Teves - ATE N 106 61.00
Daimler - DBL 9440	Daimler - DBL 8440
Daimler - DBL 8451	Delphi - DX551800
FCA (Fiat Chrysler Automotive) - PS-7626	FCA (Fiat Chrysler Automotive) - 9.57513
Ford Motor Company - WSS-M21P42	Ford Motor Company - WSD-M21P11 [S307]
General Electric - Energy - P14A-AL-0218	General Motors - GMW3359
IBM - 41-091	ISO - ISO/EN 10683
IWIS - Anforderungen Zinklamellenbeschichtung	Iveco - 18-1101
JCB - STD00017	Jaguar Land Rover - STJLR.60.5020.X100
Jaguar Land Rover - STJLR.50.5045	John Deere - LaN 930-11.4
John Deere - JDM F13	Kamax - KN-5506
Kenersys - KSY_SPC_bolt	Kiekert - WI-D-27-10-07-00
Kion (Linde) - WN 10 615	Knorr-Bremse - N12005, P22
Knorr-Bremse - N12005, P01	MAN - 183-3
Mahindra - G00 0056	PSA - Opel - GME00255
Porsche - VW96215 (PTL 7529)	SAF-HOLLAND - Technical Specification
Schneider Electric - ABD00050	Siemens Infrastructure & Cities - A6Z00033015319
Tesla - TM-0010F-M	VDA - VDA 235-104
Volkswagen - TL 233	Volkswagen - TL 242
ZKW - Technical Drawing	