

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.

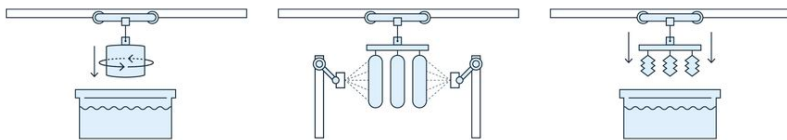
Resistance against

- 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 - F3393

Amazone - AWN 004002

Avdel - Threaded Inserts

Avdel - Breakstem Systems

Bossard - EV Engineer appendix Rev. 08

Brose - BN590295-109

Chongqing Changan - GY-TY-19-2017

Continental Teves - ATE N 106 36.31

Daimler - DBL 8451

Delphi - DX551800

FCA (Fiat Chrysler Automotive) - PS-7626

Ford Motor Company - WSS-M21P42

General Motors - GMW3359

IBM - 41-091

IWIS - Anforderungen Zinklamellenbeschichtung

JCB - STD00017

Jaguar Land Rover - STJLR.50.5045

John Deere - LaN 930-11.4

Kenersys - KSY_SPC_bolt

Kion (Linde) - WN 10 615

Knorr-Bremse - N12005, P01

PSA - Opel - GME00255

SAF-HOLLAND - Technical Specification

ASTM - F3125

ArvinMeritor - AM P104

Avdel - Fastriv® Self-piercing Rivets

Bosch - N67F 827

Brembo - BDS-11.22

Case New Holland - MAT0320

Continental Teves - ATE N 106 61.00

Daimler - DBL 8440

Daimler - DBL 9440

FCA (Fiat Chrysler Automotive) - 9.57513

Ford Motor Company - WSD-M21P11 [S307]

General Electric - Energy - P14A-AL-0218

Hendrickson Truck Suspension - HTES-1283

ISO - ISO/EN 10683

Iveco - 18-1101

Jaguar Land Rover - STJLR.60.5020.X100

John Deere - JDM F13

Kamax - KN-5506

Kiekert - WI-D-27-10-07-00

Knorr-Bremse - N12005, P22

Mahindra - G00 0056

Porsche - VW96215 (PTL 7529)

Schneider Electric - ABD00050