

## DELTA<sup>®</sup>-SEAL GZ SCHWARZ

Article number: 08400020

DELTA<sup>®</sup>-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<sup>®</sup>-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

- $\mu_{tot} = 0,09-0,14$  (VDA 235-101 & DBL 9440)
- $\mu_{tot} = 0,12-0,18$  (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.

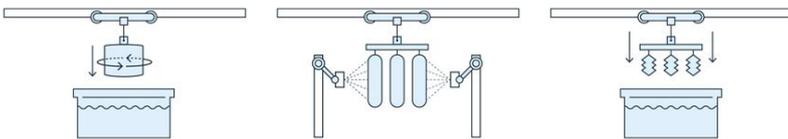
### Resistance against

- 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  
ArvinMeritor - AM P104  
Avdel - Fastriv® Self-piercing Rivets  
Bosch - N67F 827  
Brembo - BDS-11.22  
Case New Holland - MAT0320  
Continental Teves - ATE N 106 36.31  
Daimler - DBL 9440  
Daimler - DBL 8451  
FCA (Fiat Chrysler Automotive) - PS-7626  
Ford Motor Company - WSS-M21P42  
General Electric - Energy - P14A-AL-0218  
IBM - 41-091  
IWIS - Anforderungen Zinklamellenbeschichtung  
JCB - STD00017  
Jaguar Land Rover - STJLR.50.5045  
John Deere - JDM F13  
Kenersys - KSY\_SPC\_bolt  
Kion (Linde) - WN 10 615  
Knorr-Bremse - N12005, P01  
Mahindra - G00 0056  
Porsche - VW96215 (PTL 7529)  
Schneider Electric - ABD00050  
Tesla - TM-0010F-M  
Volkswagen - TL 233  
ZKW - Technical Drawing

Alstom Transport - DTRF 150217 C  
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 61.00  
Daimler - DBL 8440  
Delphi - DX551800  
FCA (Fiat Chrysler Automotive) - 9.57513  
Ford Motor Company - WSD-M21P11 [S307]  
General Motors - GMW3359  
ISO - ISO/EN 10683  
Iveco - 18-1101  
Jaguar Land Rover - STJLR.60.5020.X100  
John Deere - LaN 930-11.4  
Kamax - KN-5506  
Kiekert - WI-D-27-10-07-00  
Knorr-Bremse - N12005, P22  
MAN - 183-3  
PSA - Opel - GME00255  
SAF-HOLLAND - Technical Specification  
Siemens Infrastructure & Cities - A6Z00033015319  
VDA - VDA 235-104  
Volkswagen - TL 242