

# **DERUSSOL®** **Specialty Carbon Black Dispersions**

Technical Information 1376



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## 1. Introduction

Orion Engineered Carbons (OEC) is one of the world's leading suppliers of carbon black. We offer standard and high-performance products for coatings, printing inks, polymers, rubber and other applications. Our high-quality gas blacks, furnace blacks and specialty carbon blacks tint, colorize and enhance the performance of plastics, paints and coatings, inks and toners, adhesives and sealants, tires, and manufactured rubber goods such as automotive belts and hoses.

With 1,500 employees worldwide, Orion Engineered Carbons runs 14 global production sites and four applied technology centers, focusing on quality supply and collaborative partnerships with customers. Common shares of Orion Engineered Carbons are traded on the New York Stock Exchange under the symbol OEC.

Orion Engineered Carbons is selling various specialty carbon black brands such as: PRINTEX®, AROSPERSE®, HIBLACK®, NEROX®, NIPex®, COLOUR BLACK, SPECIAL BLACK, LAMP BLACK and PANTHER®.

Our water-borne specialty carbon black dispersions satisfy the high demands of our customers all around the globe to guarantee a dust-free handling and metering of carbon black pigments.

DERUSSOL® are our specific water-borne specialty carbon black dispersions which represent ready to use aqueous dispersions of specialty carbon blacks in a finely dispersed and stabilized form. Intensive high shear mixing is not necessary with this products.

Additionally to the known usage forms, DERUSSOL® offers other application areas such as conductivity, electrostatic finishing or UV stabilisation.

The advantage of choosing the most suitable specialty carbon black lies in adjusting physical properties such as pigment loading and viscosity. Also technological parameters such as tinting strength and conductivity can be better regulated.

To offer highest usability and optimal compatibility in a wide range of product applications at our customers, we at Orion Engineered Carbons provide many anionic and non-ionic specialty carbon black dispersions.

## 2. Typical Applications

### Coloring

- Building materials (concrete, mortar, filler)
- Fibre (viscose, PAN=Polyacrylonitrile)
- Plastics (latex, acrylate)
- Colors, paints, polishing agents
- Office supplies
- Paper

### Conductivity/Charge dissipation capability

- Building materials (mortar, screed)
- Back coating of carpets
- Synthetic turf
- Non-woven cable tapes
- Paper

### UV-protection/IR-protection

- Adhesives/sealants
- Non-woven
- Insulants



## 3. Handling

### 3.1 Treatment

The presence of substances containing active cations (e.g. iron or aluminium), pH value changes or the presence of a variety of additive systems can lead to flocculation. If this happens, often a change in viscosity can be observed.

We therefore highly recommend testing the compatibility of DERUSSOL® with all application system components before usage.

By selecting the most suitable type of DERUSSOL® incompatibilities of the system can be largely avoided.

### 3.2 Metering

To achieve the optimal efficiency, the right dosage of DERUSSOL® must be determined in the application system.

1 – 7% of solid specialty carbon black should be adequate to receive an intensive black color. On highly loaded systems (such as dispersion adhesives, back coating of carpets etc. that mainly focus on conductivity) a specialty carbon black content of 10 – 35% by weight based on the products solid should be used.

### 3.3 Storage

Water-borne specialty carbon black dispersions are stable for at least 12 months, if stored frost-free between +5 °C to +30 °C.

Since a reversible sedimentation can take place during storage, the dispersion (especially low viscous dispersions), should be stirred before processing.

## 4. Packaging

Specialty carbon black dispersions are usually supplied in 120kg net open top drums with ring closures.

Depending on your need and products viscosity, it is also possible to supply the specialty carbon black dispersions in reusable 1,000 litre containers.



## 5. Physico-chemical data

Product name	Specialty carbon black		Stabilisation Type	Solid content <sup>3)</sup> %	pH	Density 20 °C g/l	Viscosity	
	Type	Content [Weight %]					mPa s <sup>1)</sup>	mPa s <sup>2)</sup>
DERUSSOL® C	RCG <sup>4)</sup>	21	anionic	24	6.5	1100	60	10
DERUSSOL® N20/U	RCG	20	non-ionic	26.5	4	1070	30	15
DERUSSOL® Z35	RCG	35	anionic	40	12	1180	> 3000	145
DERUSSOL® 345	RCF <sup>6)</sup>	45	anionic	48	9.5	1270	> 3000	295
DERUSSOL® VU25/L	RCF	25	anionic	27.5	10.5	1140	1000	50
DERUSSOL® N25/L	RCF	25	non-ionic	29.5	4	1120	570	30
DERUSSOL® A20/40B2	RCF	20	anionic	21.5	10.5	1080	110	15
DERUSSOL® 30	RCF	30	anionic	33	9.5	1170	2000	100
DERUSSOL® L5	RCF	25	anionic	28.3	7.5	1120	60	10
DERUSSOL® F25	RCF	25	non-ionic	32.5	4.5	1100	170	45

1) Measured with a Brookfield DV-II+ at 30 rpm using a „Heliopath C“ spindle at 23 °C

2) Measured with a UDS 200; gauging member MK 20 (20 mm, 1 °); 1000 rpm at 23 °C

3) Measured by internal method STP 10

4) RCG = Regular Color Gas

5) LCF = Low Color Furnace

6) RCF = Regular Color Furnace

The stated values are guideline values only and are not part of a specification.

## 6. Recommended uses

	Fibre products				Mineral systems				Polymer dispersions						Other	
	Paper fibres	Leather fibres	Wood fibres	Spinning fibres	Cement, mortar, filler	Bitumen emulsion	Solid for flowers and graves	Shoe polish	Adhesive dispersions	Emulsion paints	Printing inks	Drawing inks	Latex emulsions	Casein emulsions	Chip board	Carbide
DERUSSOL® C		●		●				●		●						
DERUSSOL® N20/U				●					●	●						
DERUSSOL® Z35	●	●			●	●	●									
DERUSSOL® 345	●	●			●	●	●				●					●
DERUSSOL® VU25/L	●	●	●	●	●				●			●	●	●		
DERUSSOL® N25/L			●		●				●				●		●	
DERUSSOL® A20/40B2	●		●						●				●		●	
DERUSSOL® 30	●															
DERUSSOL® L5	●	●	●	●	●				●			●	●			

● coloring tinting   ● conductivity   ● UV-protection   ● reactive component



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