FLUXA®

Inspection Media for Magnetic Particle Inspection

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KARL DEUTSCH

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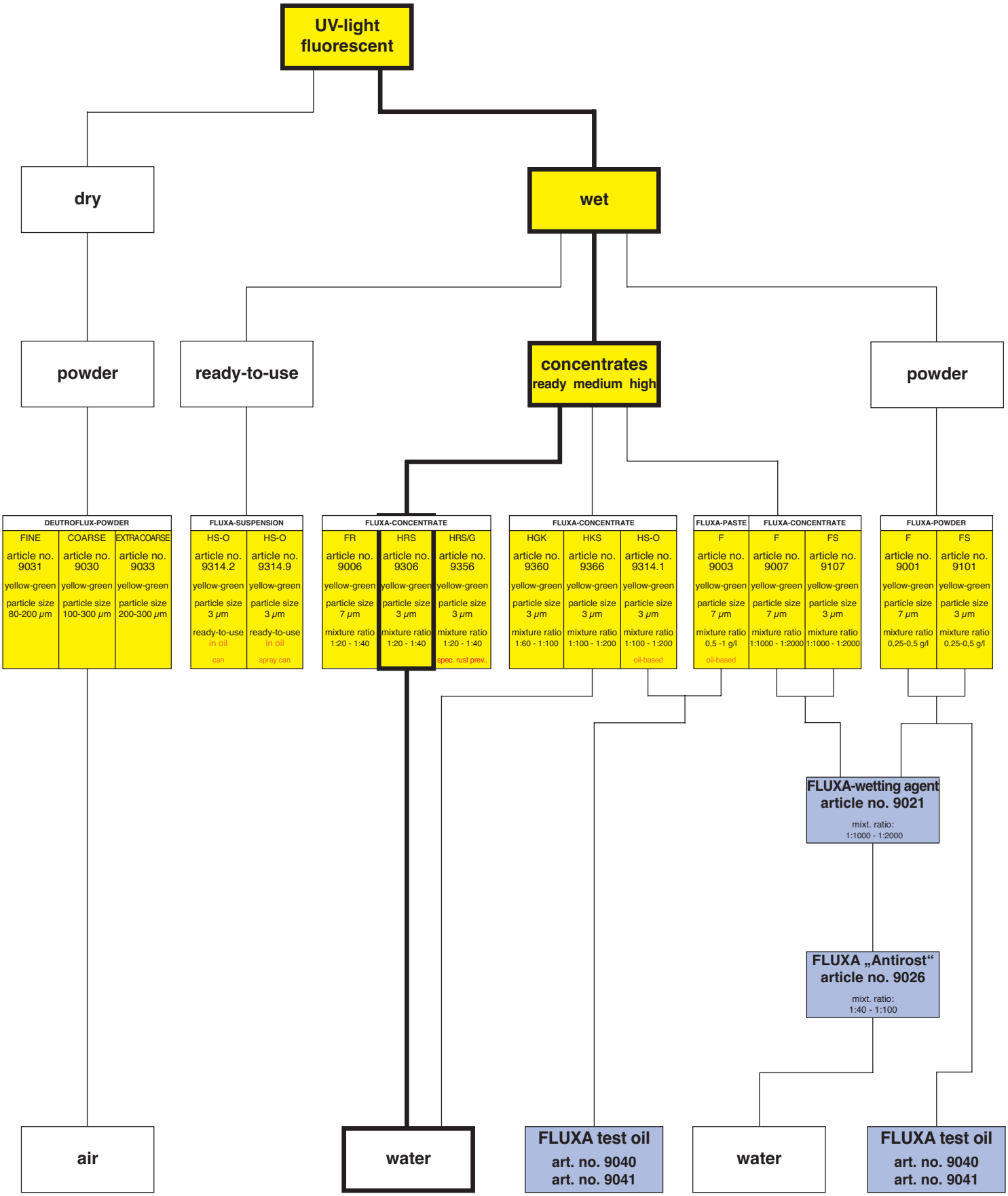

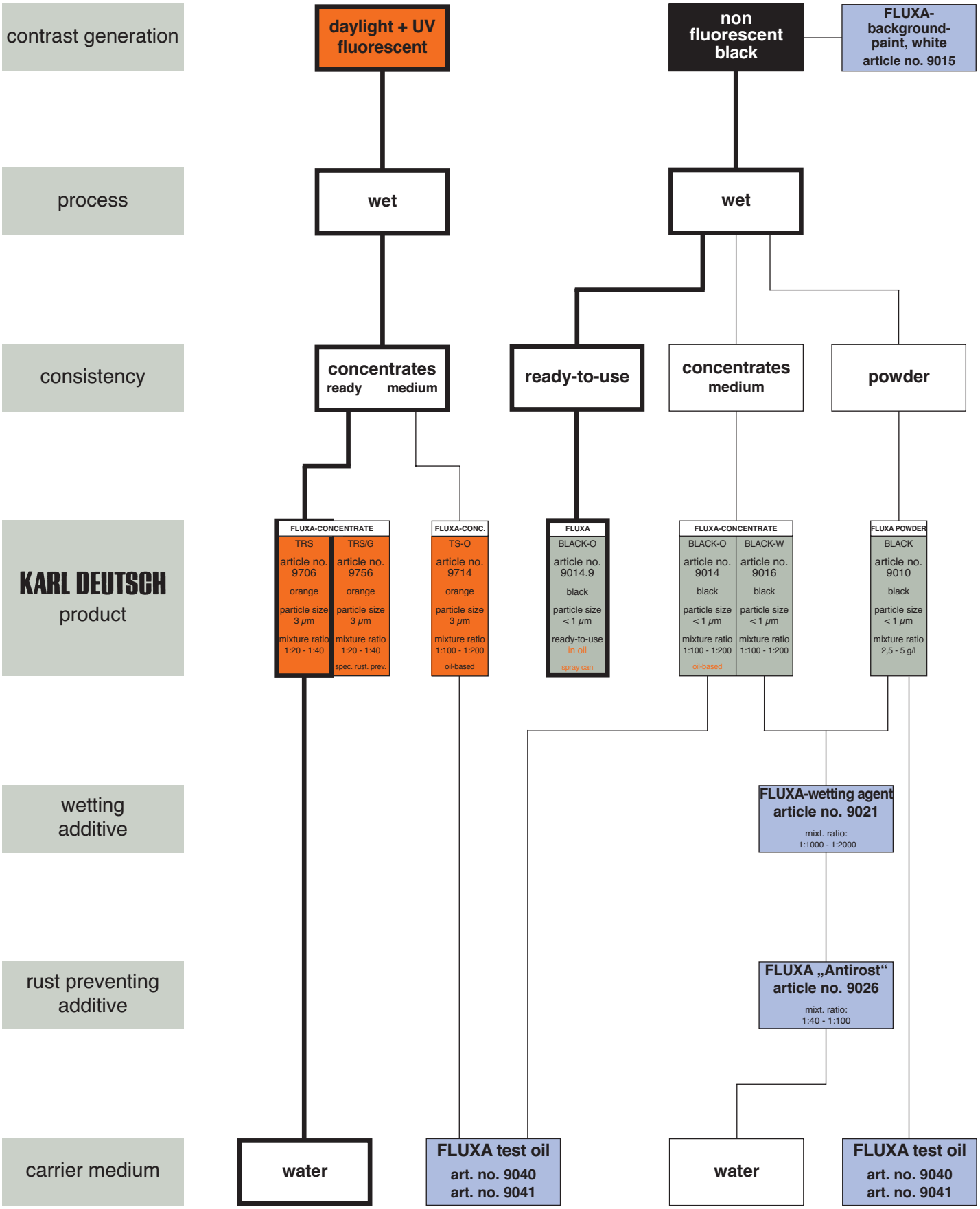
contrast generation
daylight + UV fluorescent
non fluorescent black
FLUXA-background-paint, white
article no. 9015
process
wet
wet
consistency
concentrates
ready medium
ready-to-use
concentrates
medium
powder
KARL DEUTSCH
product
FLUXA-CONCENTRATE
TRS
article no. 9706
orange
particle size 3 µm
mixture ratio 1:20 - 1:40
TRS/G
article no. 9756
orange
particle size 3 µm
mixture ratio 1:20 - 1:40
spec. rust. prev.
FLUXA-CONC.
TS-O
article no. 9714
orange
particle size 3 µm
mixture ratio 1:100 - 1:200
oil-based
FLUXA
BLACK-O
article no. 9014.9
black
particle size < 1 µm
ready-to-use
in oil
spray can
FLUXA-CONCENTRATE
BLACK-O
article no. 9014
black
particle size < 1 µm
mixture ratio 1:100 - 1:200
oil-based
BLACK-W
article no. 9016
black
particle size < 1 µm
mixture ratio 1:100 - 1:200
FLUXA POWDER
BLACK
article no. 9010
black
particle size < 1 µm
mixture ratio 2,5 - 5 g/l
wetting additive
FLUXA-wetting agent
article no. 9021
mixt. ratio:
1:1000 - 1:2000
rust preventing additive
FLUXA „Antirost“
article no. 9026
mixt. ratio:
1:40 - 1:100
carrier medium
water
FLUXA test oil
art. no. 9040
art. no. 9041
water
FLUXA test oil
art. no. 9040
art. no. 9041

Experience:

FLUXA® concentrate HRS is the premium choice for testing under UV-light.

FLUXA® Ready Concentrates: Easiest way of preparation

You only need water to obtain the ready-to-use suspension. The contained additives are sufficient for nearly all cases.

FLUXA® Concentrate FR 9006: Contains powder F (9001) as indicating agent. Mainly recommended for medium and bigger cracks (semi-finished products) and for lower demands of corrosion protection.

FLUXA® Concentrate HRS 9306: Ideal medium to detect finest cracks under UV-light.

FLUXA® Concentrate HRS/G 9356: Same properties as 9306, but with stronger rust inhibitor, e.g. for cast iron.

FLUXA® Concentrate TRS 9706: Unique medium for daylight, halogene and UV-light.

FLUXA® Concentrate TRS/G 9756: Same properties as 9706, but with stronger rust inhibitor, e.g. for cast iron.

FLUXA® Medium Concentrates: Optimum compromise between price and preparation procedure

The medium concentrates already contain wetting agent and a certain amount of rust inhibitor which will be sufficient for most testing tasks. In that case, only water must be added.

FLUXA® Concentrate HGK 9360: Cheaper alternative to HRS, if the demands for rust protection are reduced. For normal forged steel products the rust protection is sufficient. For cast iron parts additional FLUXA® Rust Inhibitor 9026 is possibly required.

FLUXA® Concentrate HKS 9366: Cheaper alternative to HRS, if the demands for rust protection are reduced.

FLUXA® Concentrate HS-O 9314: Oil-suspendible, contains the magnetic powder of HRS.

FLUXA® Concentrate TS-O 9714: Oil-suspendible, contains the daylight magnetic powder of the TRS. Offers the advantages of testing in the daylight, when oil as carrier fluid is prescribed.

FLUXA® Concentrate BLACK-O 9014: Contains Fe_3O_4 as indicating medium (Art. no. 9010). Oil-suspendible. For daylight testing, with or without white background paint (FLUXA®-BACKGROUND PAINT WHITE, Art. no. 9015).

FLUXA® Concentrate BLACK-W 9016: Contains Fe_3O_4 as indicating medium (Art. no. 9010). Water suspendible. For daylight testing, with or without white background paint (FLUXA®-BACKGROUND PAINT WHITE, Art. no. 9015).

FLUXA® High Concentrates: Cheapest types of concentrates

Even for these concentrates the often troublesome mixture of powder in water is not required. However, rust inhibitor and wetting agent must be added.

FLUXA® Concentrate F 9007: Contains Powder F (9001) as indicating medium.

FLUXA® Concentrate FS 9107: Contains Powder FS (9101) as indicating medium.

FLUXA®-Paste F 9003: Oil-suspendible; contains wetting agent and can simply be dosed. High concentrate for oil. Contains powder 9001 as indicating medium.

FLUXA® Powder (wet process): Universally applicable and cheapest possibility.

FLUXA® Powders designed for the wet process are based on iron oxides. Thus, rust and quick settling are avoided.

FLUXA® Powder F 9001: Slightly increased particle size to detect bigger cracks, especially used to test semi-finished products.

Alternatives:

The FLUXA® program is as manifold as the testing problems. Criteria of choice are given below, detailed information can be obtained from the technical and safety data sheets and special prints.

FLUXA® Powder FS 9101: Minimum particle size to indicate medium to finest cracks in testing semi-finished and finished products. High fluorescence intensity.

FLUXA® Powder BLACK 9010: Highest sensitivity in non fluorescent test. For testing with „Black/White“ method.

FLUXA® - Ready-to-use:

Ideally suitable for manual testing of single parts or on-site

FLUXA® HS-O 9314.2: Ready-to-use, in test oil prepared FLUXA® concentrate HS-O 9314. Contains the magnetic powder of HRS.

FLUXA® HS-O 9314.9: Ready-to-use, in test oil prepared FLUXA® concentrate HS-O 9314. Contains the magnetic powder of HRS.

FLUXA® BLACK-O 9014.9; AEROSOL: Ready-to-use, in test oil prepared **FLUXA®** Oil concentrate BLACK-O 9041. Contains Fe_3O_4 as indication agent (Art. no. 9010). For testing in daylight, possibly with white background paint (FLUXA® BACKGROUND PAINT WHITE, Art. no. 9015.1).

DEUTROFLUX® Powder (dry process) Article nos. 9030 - 9033:

These powders are used for the dry process, e.g. to meet certain U.S. prescriptions or for vortex chamber testing. The powder is applied on the specimen without a carrier medium, i.e. blown over the workpiece, or the residually magnetized workpiece is dipped into the powder bath of the vortex chamber. Suitably fine and coarse qualities should be mixed for these purposes.

FLUXA®-Additives: Are used dependent on the application together with the FLUXA® agents.

FLUXA® Wetting Agent 9021: To prepare FLUXA® Powders F, FS and BLACK in water, or to prepare FLUXA® High Concentrates F, FS.

FLUXA® Rust Inhibitor „Antirost“ 9026: To prepare FLUXA® Powders F, FS and BLACK in water, or to prepare FLUXA® High Concentrates F, FS. If needed, also together with FLUXA®-Medium Concentrates HKS and BLACK-W. FLUXA® Antirost is specially designed for ferrous metals. Not suitable for non-ferrous metals (which cannot be tested by the MPE method at all; as corrosion protection for ultrasonic testing, the anti-corrosive ECHOKOR Art. no. 9027 is available).

FLUXA® Defoaming Agent 9024: For foam problems in aqueous systems. To be used only in exceptional cases (extremly soft water) and with lowest possible amount.

FLUXA® BACKGROUND PAINT WHITE 9015: White background paint in spray cans for magnetic particle inspection according to the „black/white“ procedure.

FLUXA® TEST OIL 9040/9041: To prepare Oil Concentrates 9014, 9314 and 9714, FLUXA® Paste F and to prepare FLUXA® Powders F, FS, BLACK. FLUXA® Test Oil is characterized by optimum compatibility to FLUXA® Powders, is non-fluorescent and has an ideal viscosity for testing. Flash point 9040: 65°C, Flash point 9041: 110°C

Standards and Specifications...

for each FLUXA® testing agent are described in detail within the appropriate **Technical Information Sheet.**

Technical information and safety data sheets...

can be obtained directly from our homepage **www.karldeutsch.de** .

FLUXA®

Five reasons for its use in nondestructive testing

1. Guarantee of uniform high-level sensitivity!

When **FLUXA®** -ready concentrates are used, a constant indication sensitivity of the inspection bath can be guaranteed. Mainly this has two reasons:

a) The production of the inspection media is carried out under controlled conditions.

b) Unambiguously and clearly defined quality of the **FLUXA®** product. This is documented in the individual acceptance reports containing the measured values incl. the acceptable tolerances for each batch. The user influence on the quality of the suspension, in this case, is relatively low, as the ready-to-use concentrate has only to be diluted in water.

2. Long life times of the inspection baths!

In case of serial inspections, the initial indication sensitivity of the fresh inspection bath alone is not sufficient. In order to achieve reproducible test results, it is important that the indication sensitivity remains constant during a long period of testing. Besides the dragout of the magnetic powder by the specimen, the life time is mainly determined by the resistance of the testing agent to the mechanical load caused by the permanent pump-over in the circulation of the bath. The **FLUXA®** testing agents present the same sensitivity of indication even after 100 hours of circulation as after 5 minutes. This is checked for each batch before delivery and documented in the acceptance report.

3. Well-approved in daily practise!

For many years, we have been delivering our **FLUXA®** inspection media to the (automotive) industry and their suppliers such as forges and foundries. The **FLUXA®** products are always top-positioned in suppliers' rating.

4. Solutions even for special applications!

Based on the long-time experience of KARL DEUTSCH in research and production of inspection media, it is unlikely that the wide **FLUXA®** product range does not offer a solution for your testing problem. When a special inspection medium should be needed, we can surely help you with an MPI medium optimally matched to your demands.

5. The price - performance ratio is correct!

A technically perfect solution for a reasonable price: Convince yourself about the quality in your testing system. Our offer will confirm that the use of **FLUXA®** inspection media will reduce costs also in your company.

Ordering Information

	Product	Carrier medium	Preparation	Settling volume ASTM (ml)	Packing	Ordering No.
WET PROCESS	FLUXA®-concentrate FR	water	1:20–1:40	0,2–0,1	1 l-bottle 5 l-can	9006.1 9006.2
	FLUXA®-concentrate HRS	**water**	**1:20–1:40**	**0,2–0,1**	**1 l-bottle 5 l-can**	**9306.1 9306.2**
	FLUXA®-concentrate HRS/G (with increased rust inhibitor)	water	1:20–1:40	0,2–0,1	1 l-bottle 5 l-can	9356.1 9356.2
	FLUXA®-concentrate HGK	water	1:60–1:100	0,2–0,1	1 l-bottle 5 l-can	9360.1 9360.2
	FLUXA®-concentrate HKS	water (+rust inhibitor if needed)	1:100–1:200	0,2–0,1	1 l-bottle 5 l-can	9366.1 9366.2
	FLUXA®-concentrate HS-O	oil	1:100–1:200	0,2–0,1	1 l-bottle	9314.1
	FLUXA®-HS-O FLUXA®-HS-O	oil oil	– –	0,2 0,2	10 l-can 500 ml aerosol	9314.2 9314.9
	FLUXA®-concentrate F	water + additives	1:1000–1:2000	1,3–0,65	1 l-bottle	9007.1
	FLUXA®-concentrate FS	water + additives	1:1000–1:2000	0,1–0,05	1 l-bottle	9107.1
	FLUXA®-paste F	oil	1,0–0,5 g/l	0,13–0,07	100 g-tin 1 kg-tin	9003.1 9003.2
	FLUXA®-powder F	water + additives oil	0,5–0,25 g/l	0,13–0,07	500 g-tin 1 kg-tin	9001.1 9001.2
	FLUXA®-powder FS	water + additives oil	0,5–0,25 g/l	0,13–0,07	500 g-tin 1 kg-tin	9101.1 9101.2
	FLUXA®-concentrate TRS	water	1:20–1:40	0,3–0,15	1 l-bottle 5 l-can	9706.1 9706.2
	FLUXA®-concentrate TRS/G (with increased rust inhibitor)	water	1:20–1:40	0,3–0,15	1 l-bottle 5 l-can	9756.1 9756.2
	FLUXA®-concentrate TS-O	oil	1:100–1:200	0,3–0,15	1 l-bottle	9714.1
	FLUXA®-concentrate BLACK-O	oil	1:100–1:200	1,3–0,65	1 l-bottle	9014.1
	FLUXA®-BLACK-O	oil	–	1,3	500 ml aerosol	9014.9
	FLUXA®-concentrate BLACK-W	water +rust inhibitor if needed	1:100–1:200	1,3–0,65	1 l-bottle	9016.1
	FLUXA®-powder BLACK	water + additives or oil	5–2,5 g/l	1,3–0,65	5 kg-bag	9010.1
DRY PROCESS	DEUTROFLUX®-powder FINE	air	vortex chamber 20%	–	10 kg-bin	9031.1
	DEUTROFLUX®-powder COARSE	air	vortex chamber 80%	–	10 kg-bin	9030.1
	DEUTROFLUX®-powder EXTRA COARSE	air	–	–	10 kg-bin	9033.1
OIL / ADDITIVES	FLUXA®-wetting agent	water	1:1000–1:2000	–	1 l-bottle 5 l-can	9021.1 9021.2
	FLUXA®-rust inhibitor ANTIROST	water	1:40–1:100	–	1 l-bottle 5 l-can	9026.1 9026.2
	FLUXA®-defoamer	water	1:1000–1:2000	–	1 l-bottle	9024.1
	FLUXA®-background paint, white	–	–	–	400 ml aerosol	9015.1
	FLUXA®-test oil	–	–	–	10 l-can 200 l-barrel	9040.2 9040.9
	FLUXA®-test oil 110	–	–	–	10 l-can 200 l-barrel	9041.2 9041.9

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