

dhs-Cleanalyzer[®] Professional



integrated in the Image Data Base

Cleanliness Analysis

Description Specimen:

General Information

Ref. job instruction: 2387fg
Ref. qualification data: ---

Specimen

Article: Pleuel
Article No.: 12895-Z-3
Date of testing: 13.09.2010
Specimen No.: 1

Test fluid

Amount Cleaning fluid: 1l
Type: Aqueous Cleaner
Trade Name: Customer Filter (unknown)
Manufacturer: Customer Filter (unknown)

Gravimetry

Blank value: ---
Cleanliness Value: ---
Unit: mg/Article
Weight Difference: ---

Preparation

Preparation: Disassembly
Ambient conditions: Clean room
in acc. with ISO 14644-1: Yes

Withdrawal

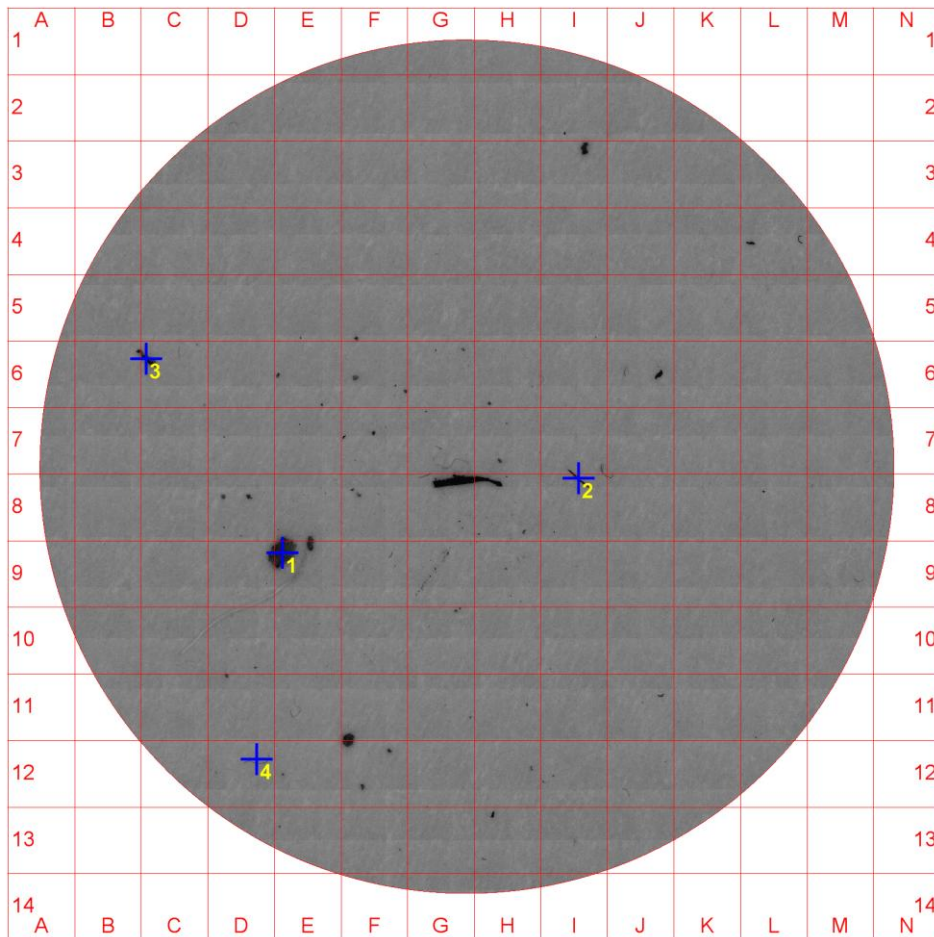
Withdrawal: Spraying
Amount Specimen: 1
Environment: Clean room
in acc. with ISO 14644-1: Yes

Analysis

Filter No.: 1
Type of Filter: Millipore
Filter Size / mm: 43.6 mm
Analysis Size / mm: 40.6 mm
Calibration: 2.4 µm/Pixel
Binarizing threshold: 0 / 80
Test filter: No
Cascade: No
Lighting: Reflected light
Analysis environment: Clean room
in acc. with ISO 14644-1: Yes

Note:

Auditor: Thieme
Date: 13.09.2011 9:21 a.m.



Comment:

Evaluation acc. to Standard VDA Bd. 19:

Detailed statistics:

Test batch (amount): 1

Article: 100 cm³

Range	Coding	Amount		Per article		Per 100 cm ³		Concentration class	
		Altogether	Metal swarf	Altogether	Metal swarf	Altogether	Metal swarf	Altogether	Metal swarf
5 < ... <= 15	B	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.
15 < ... <= 25	C	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.
25 < ... <= 50	D	141	3	141	3	141	3	8	2
50 < ... <= 100	E	63	3	63	3	63	3	6	2
100 < ... <= 150	F	22	2	22	2	22	2	5	1
150 < ... <= 200	G	8	1	8	1	8	1	3	0
200 < ... <= 400	H	16	2	16	2	16	2	4	1
400 < ... <= 600	I	4	2	4	2	4	2	2	1
600 < ... <= 1000	J	4	0	4	0	4	0	2	0
1000 < ... <= 100000	K	4	2	4	2	4	2	2	1

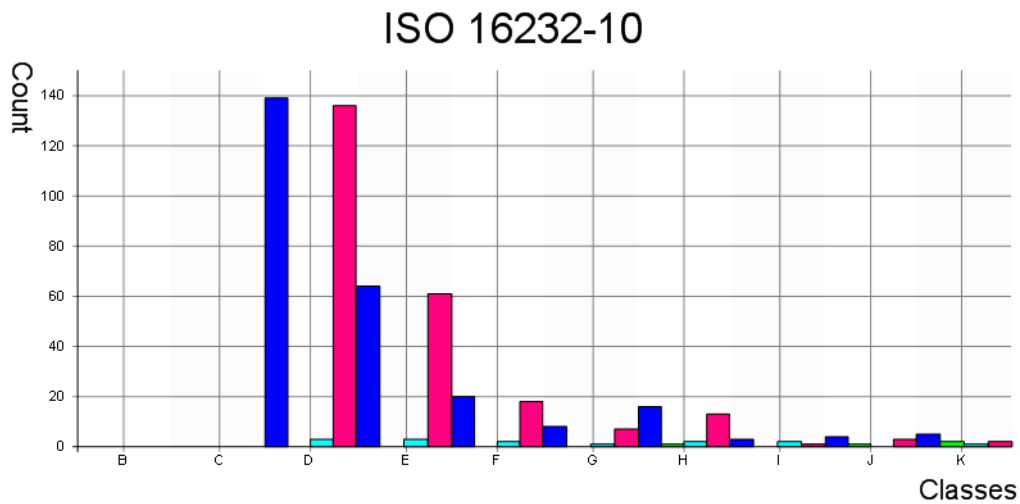
CCC (Component Cleanliness Code):

CCC specification

Range	Coding	Amount		Per article		Per 100 cm ³		Concentration class	
		Altogether	Metal swarf	Altogether	Metal swarf	Altogether	Metal swarf	Altogether	Metal swarf
5 < ... <= 25	B-C	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.	n.b.
25 < ... <= 100	D-E	204	6	204	6	204	6	8	3
100 < ... <= 200	F-G	30	3	30	3	30	3	5	2
400 < ...	I-K	12	4	12	4	12	4	4	2

Beschreibung	--> Per 100 cm ³	Status
Altogether	V(B-C00/D-E8/F-G5/I-K4)	Not OK
Metal swarf	V(B-C00/D-E3/F-G2/I-K2)	Not OK

Histogram:



Frequency table:

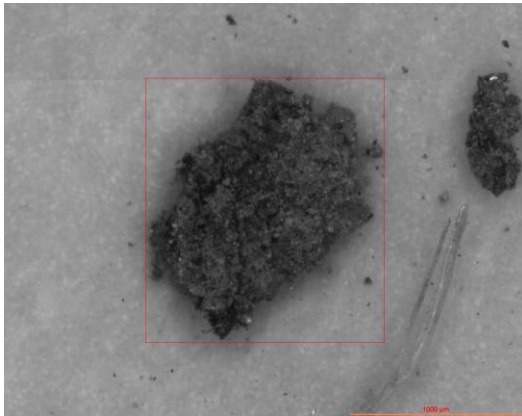
Class	Amount	Fibre	Metal swarf	Other
B	n.b.	n.b.	n.b.	n.b.
C	n.b.	n.b.	n.b.	n.b.
D	141	0	3	138
E	63	0	3	60
F	22	0	2	20
G	8	0	1	7
H	16	1	2	13
I	4	1	2	1
J	4	1	0	3
K	4	1	2	1
Sum	262	4	15	243

Biggest particle (specified):

Other: 1560 µm
 Metal swarf: 1354 µm
 Fibre: 1218 µm

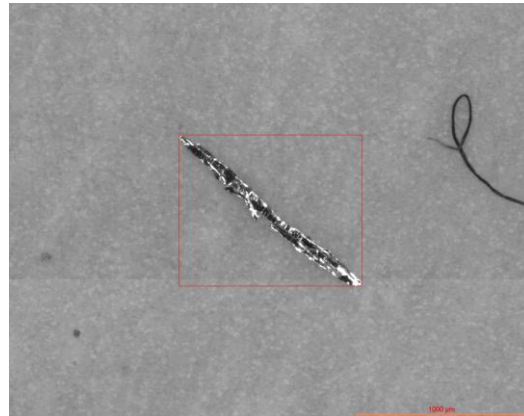
Significant Particles:

Picture 1



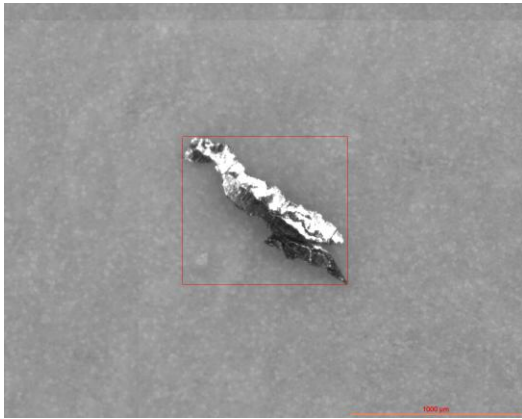
ID	01 - 000172
Length	1560 µm
Width	1119 µm
Area	1.3430 mm ²
Fibre length	4430 µm
Fibre thickness	303 µm
Specification	Other
Marker	1

Picture 2



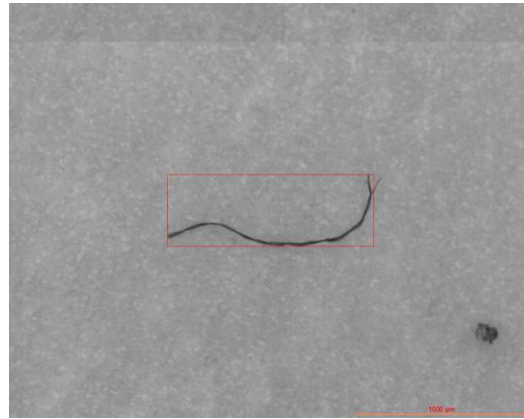
ID	01 - 000083
Length	1354 µm
Width	144 µm
Area	0.1037 mm ²
Fibre length	1810 µm
Fibre thickness	57 µm
Specification	Metal swarf
Marker	2

Picture 3



ID	01 - 000029
Length	1229 µm
Width	344 µm
Area	0.2294 mm ²
Fibre length	2729 µm
Fibre thickness	84 µm
Specification	Metal swarf
Marker	3

Picture 4



ID	01 - 000246
Length	1218 µm
Width	326 µm
Area	0.0218 mm ²
Fibre length	1493 µm
Fibre thickness	15 µm
Specification	Fibre
Marker	4