FILTER TECHNOLOGY

cleaner fluids mean better business

Filtration and Contamination Control Specialists

Cleanliness code explained

ISO 4406 Cleanliness Code - Range 1 to 25

← Number of particles per ml sample →		ISO 4406
Particle count more than:	Particle count up to:	Cleanliness Code
160,000	320,000	25
80,000	160,000	24
40,000	80,000	23
20,000	40,000	22
10,000	20,000	21
5,000	10,000	20
2,500	5,000	19
1,300	2,500	18
640	1,300	17
320	640	16
160	320	15
80	160	14
40	80	13
20	40	12
10	20	11
5	10	10
2.5	5	9
1.3	2.5	8
0.64	1.3	7
0.32	0.64	6
0.16	0.32	5
0.08	0.16	4
0.04	0.08	3
0.02	0.04	2
0.01	0.02	1

Poorer

Target range

Better

Example – A 16/13 particle count:

16 represents the total number of particles larger than 5 microns.

13 represents the total number of particles larger than 15 microns.

Oil Cleanliness Target Particle Count?

20/17	19/16	18/15	17/14	16/13	15/12	14/11	13/10	12/9	11/8	10/7	Your Current Oil Cleanliness Particle Count?
5 / 4	3 / 2.5	7 / 4.5	3.5 / 3	9 / 6	4 / 3.5	>10 / 6.5	5 / 4	>10 / 7.5	6 / 5	>10 / 8.5	7.5 / 6.5	>10 / 10	9 / 7	>10 / >10	9 / 7	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	26/23
4 / 3	2.5 / 2	5 / 3.5	3 / 2.5	7 / 4.5	3.5 / 3	9 / 5	4 / 3.5	>10 / 6.5	5 / 4	>10 / 8	6 / 5	>10 / 9	7 / 6	>10 / >10	>10 / 7.5	>10 / >10	9 / 6	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	25/22
3 / 2.5	2 / 1.5	4 / 3	2.5 / 2	6 / 4	3 / 2.5	7 / 5	4 / 3	>9 / 6.5	5 / 4	>10 / 7.5	6 / 5	>10 / 8.5	7 / 6	>10 / 9.5	8 / 7	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	>10 / >10	24/21
2 / 1.7	1.5 / 1.5	3 / 2.5	2 / 1.5	4 / 3	2.5 / 2	5 / 3.7	3 / 2.5	7 / 5	3.5 / 3	9 / 6	4 / 3.5	>10 / 7	5 / 4	>10 / 9	6 / 5	>10 / 10	8 / 6.5	>10 / >10	9 / 8.5	>10 / >10	>10 / >10	>10 / >10	>10 / >10	23/20
1.6 / 1.4	1.3 / 1.1	2 / 1.8	1.6 / 1.3	3 / 2.3	2 / 1.7	4 / 3	2.5 / 2	5 / 3.5	3 / 2.5	7 / 4.5	3.5 / 3	8 / 5.5	4 / 3.5	>10 / 7	5 / 4	>10 / 8	6 / 5	>10 / >10	7 / 5.5	>10 / >10	>10 / >10	>10 / >10	>10 / >10	22/19
1.3 / 1.2	1.2 / 1.1	1.5 / 1.5	1.5 / 1.3	2 / 1.8	1.7 / 1.4	3 / 2.2	2 / 1.6	4 / 3	2.5 / 2	5 / 3.5	3 / 2.5	7 / 4.5	3.5 / 3	9 / 5	4 / 3.5	>10 / 7	6 / 4	>10 / 9	7 / 5.5	>10 / >10	>10 / >10	>10 / >10	>10 / >10	21/18
		1.3 / 1.2	1.2 / 1.05	1.6 / 1.5	1.5 / 1.3	2 / 1.8	1.7 / 1.4	3 / 2.3	2 / 1.7	4 / 3.5	3 / 2.5	5 / 3.5	3 / 2.5	7 / 5	4 / 3	9 / 6	5 / 4	>10 / 8	7 / 5.5	>10 / 10	>10 / 9	20/17
				1.3 / 1.2	1.2 / 1.1	1.6 / 1.5	1.5 / 1.3	2 / 1.8	1.7 / 1.5	3 / 2.2	2 / 1.7	4 / 3	2.5 / 2	5 / 3.5	3 / 2.5	7 / 5	4 / 3.5	9 / 7	6 / 4.5	>10 / 9	8 / 6	19/16
						1.3 / 1.2	1.2 / 1.1	1.6 / 1.5	1.5 / 1.3	2 / 1.8	1.7 / 1.5	3 / 2.3	2 / 1.7	4 / 3	2.5 / 2	5 / 3.5	3 / 2.5	7 / 5.5	4 / 3.7	>10 / 8	6 / 5	18/15
								1.3 / 1.2	1.2 / 1.1	1.6 / 1.5	1.5 / 1.3	2 / 1.8	1.7 / 1.5	3 / 2.2	2 / 1.7	4 / 3	2.5 / 2	6 / 4	3 / 2.5	8 / 6	5 / 3.5	17/14
										1.3 / 1.2	1.2 / 1.1	1.6 / 1.5	1.5 / 1.3	2 / 1.8	1.7 / 1.5	3 / 2.3	2 / 1.8	4 / 3.7	3 / 3	6 / 4.5	4 / 3.5	16/13
												1.3 / 1.2	1.2 / 1.1	1.6 / 1.5	1.5 / 1.4	2 / 1.6	1.7 / 1.5	3 / 2.3	2 / 1.6	4 / 3	2.5 / 2.2	15/12
														1.3 / 1.3	1.3 / 1.2	1.6 / 1.6	1.6 / 1.4	2 / 1.9	1.8 / 1.5	3 / 2.3	2 / 1.8	14/11
																1.4 / 1.2	1.2 / 1.1	1.8 / 1.6	1.5 / 1.3	2.5 / 2	1.8 / 1.6	13/10

Hydraulics and Diesel Engine Oil | Rolling Elem Bearings | Journal Bearings Turbo Machinery | Gearboxes and Others

How to use the table:

Select current Oil Cleanliness Particle count on vertical (red) scale. Move along horisontally until you arrive at the correct value for Filtered Oil Cleanliness Particle Count (green). The number in the coloured box which relates to the type of oil represents its life extension.

Example:

Diesel Engine Oil: Current particle count 20/17. When filtered clean and maintained at 16/13 will promote a life extension of 3 times normal life.

Gearbox Oil: Current particle count 20/17. When filtered clean and maintained at 16/13 will promote a life extension of 1.7 times normal life.

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