

Understanding ISO Cleanliness Codes

The ISO cleanliness codes are derived from International Standard ISO 4406:99. ISO codes show 3 sets of separated numbers. These numbers refer to ranges depicting the number of particles 'larger than' 4 micron, 6 micron and 14 micron respectively. Obviously as 6 micron and 14 micron particles are both larger than 4 micron those particles are all also present in the first number. The second number only shows particles larger than 6 micron. The last number only shows particles larger than 14 micron.

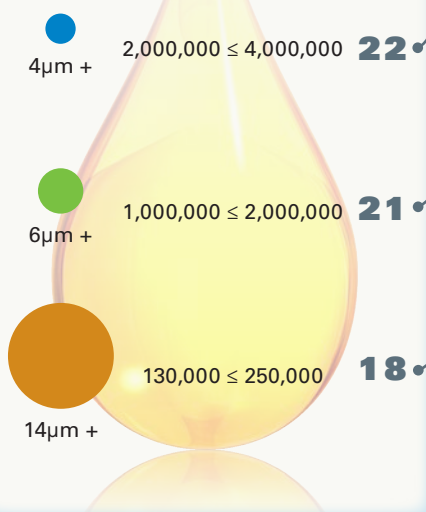
The table on the right shows the number of particles in 100mL of fluid that is specified against each number in the range.

Example:

Fuel or oil can often have a cleanliness level of ISO 22/21/18. Using the table this means that:

ISO 22/21/18

particles size number of particles



ISO 4406 Cleanliness Standards (number of particles per 100mL)*		
Range no.	More than	Up to and including
24	8,000,000	18,000,000
23	4,000,000	8,000,000
22	2,000,000	4,000,000
21	1,000,000	2,000,000
20	500,000	1,000,000
19	250,000	500,000
18	130,000	250,000
17	64,000	130,000
16	32,000	64,000
15	16,000	32,000
14	8,000	16,000
13	4,000	8,000
12	2,000	4,000
11	1,000	2,000
10	500	1,000
9	250	500
8	130	250
7	64	130
6	32	64
5	16	32
4	8	16
3	4	8
2	2	4
1	1	2

Based on the example shown there are literally millions of small particles present in just 100mL of fuel or oil at a cleanliness level of ISO 22/21/18.

Do you know the required oil and fuel cleanliness requirements for your equipment?

Have you had your workshop hydrocarbons tested?

For more information call 1800 345 837.

*** Note:** ISO 4406:99 states particles per 1mL. Commonly with heavy oils where the number of 4 micron particles is of little significance some companies use two digit ISO codes (e.g. ISO 21/18) where the two codes relate to 6 and 14 micron particles only.

DID YOU KNOW

✓ A 120LPM pump working 8 hours a day using fluid that is ISO 18/16/13 will pass 9kgs of dirt in 200 days.