ISO Contamination Code Table

The ISO Particle Contamination Code simplifies the reporting of particle count data by converting the particle count results into classes or codes.
An increase from one code number to the next generally indicates a doubling of the particle contamination level.
The ISO Code scale numbers are based on total particles equal to or greater than a given size range.
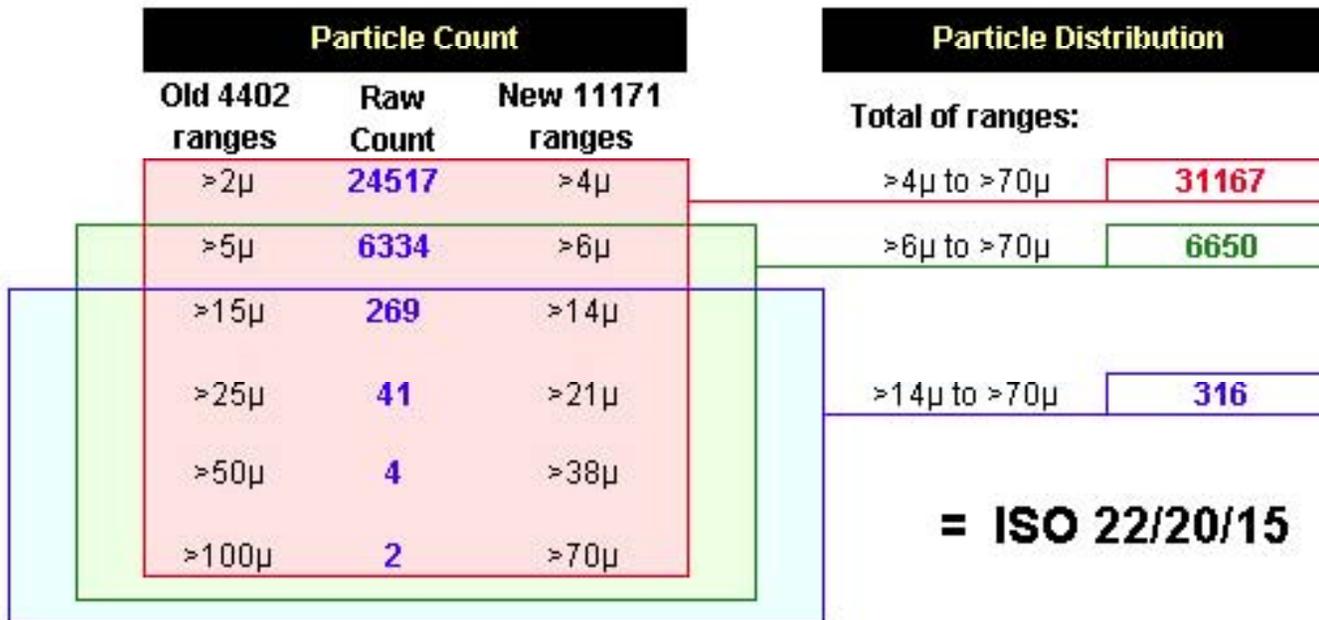
ISO Code	particles/1ml
30	10,000,000
29	5,000,000
28	2,500,000
27	1,300,000
26	640,000
25	320,000
24	160,000
23	80,000
22	40,000
21	20,000
20	10,000
19	5,000
18	2,500
17	1,300
16	640
15	320
14	160
13	80
12	40
11	20
10	10
9	5
8	2.5
7	1.3
6	0.64
5	0.32
4	0.16
3	0.08
2	0.04
1	0.02
0.9	0.01
0.8	0.005
0.7	0.0025

Particle Count

Old 4402 ranges	Raw Count	New 11171 ranges
>2µ	24517	>4µ
>5µ	6334	>6µ
>15µ	269	>14µ
>25µ	41	>21µ
>50µ	4	>38µ
>100µ	2	>70µ

Particle Distribution

Total of ranges:

>4µ to >70µ	31167
>6µ to >70µ	6650
>14µ to >70µ	316

= ISO 22/20/15

Changes in particle counting calibration and redefined reporting size ranges have concerned many oil analysis users because of the possible effects on historical trends and cleanliness target guidelines. The new ranges have been chosen to maintain cleanliness target points and minimize the effect on comparing the current values to the testing history. We all benefit from this change: improved instrument accuracy and repeatibility means superior quality results.

The ISO 4406 code table is still in use, only it now references the new ISO 11171 size ranges. This table shows how the Contamination Class reference chart supports both sets of particle count ranges. The particle count results are reported as three code numbers separated by a "/", for example, 22/20/16. The first code number corresponds to total particles greater than 4µ (or 2µ), the second total particles greater than 6µ (or 5µ), and the third to total particles greater than 14µ (or 15µ). The code is obtained by cross-referencing the chart. Although the results themselves shift slightly in the new system, no significant shift in ISO code number occurs due to the changes in the automated particle counter calibration method.