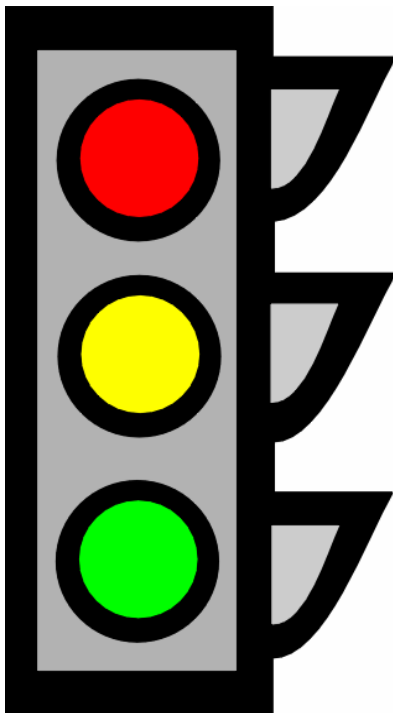


What do the particle counts mean and how can they be interpreted into fuel cleanliness?

A sample flow is sent to the laser eye chamber, which is representative of overall fuel contamination levels.



29
28
27
26
25
24
23
22.

Red: Contamination HIGH, signifying unacceptable levels of **SOAPS, MOISTURE, PRODUCTION RESIDUES AND SOLID CONTAMINANTS.**

22
21
20.1

Amber: Contamination STILL TO HIGH

20
19
18
17

Green: Fuel cleanliness ACCEPTABLE



| Cleanliness Code | Particle count/ml | Cleanliness Code | Particle count/ml | Cleanliness Code | Particle count/ml |
|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| ≥ 29 | 2500000 | 26 | 320000 | 22 | 20000 |
| 28.9 | 2380000 | 25.9 | 304000 | 21.9 | 19000 |
| 28.8 | 2260000 | 25.8 | 288000 | 21.8 | 18000 |
| 28.7 | 2140000 | 25.7 | 272000 | 21.7 | 17000 |
| 28.6 | 2020000 | 25.6 | 256000 | 21.6 | 16000 |
| 28.5 | 1900000 | 25.5 | 240000 | 21.5 | 15000 |
| 28.4 | 1780000 | 25.4 | 224000 | 21.4 | 14000 |
| 28.3 | 1660000 | 25.3 | 208000 | 21.3 | 13000 |
| 28.2 | 1540000 | 25.2 | 192000 | 21.2 | 12000 |
| 28.1 | 1420000 | 25.1 | 176000 | 21.1 | 11000 |
| 28 | 1300000 | 25 | 160000 | 21 | 10000 |
| 27.9 | 1234000 | 24.9 | 152000 | 20.9 | 9500 |
| 27.8 | 1168000 | 24.8 | 144000 | 20.8 | 9000 |
| 27.7 | 1102000 | 24.7 | 136000 | 20.7 | 8500 |
| 27.6 | 1036000 | 24.6 | 128000 | 20.6 | 8000 |
| 27.5 | 970000 | 24.5 | 120000 | 20.5 | 7500 |
| 27.4 | 904000 | 24.4 | 112000 | 20.4 | 7000 |
| 27.3 | 838000 | 24.3 | 104000 | 20.3 | 6500 |
| 27.2 | 772000 | 24.2 | 96000 | 20.2 | 6000 |
| 27.1 | 706000 | 24.1 | 88000 | 20.1 | 5500 |
| 27 | 640000 | 24 | 80000 | 20 | 5000 |
| 26.9 | 608000 | 23.9 | 76000 | 19.9 | 4750 |
| 26.8 | 576000 | 23.8 | 72000 | 19.8 | 4500 |
| 26.7 | 544000 | 23.7 | 68000 | 19.7 | 4250 |
| 26.6 | 512000 | 23.6 | 64000 | 19.6 | 4000 |
| 26.5 | 480000 | 23.5 | 60000 | 19.5 | 3750 |

| | |
|------|--------|
| 26.4 | 448000 |
| 26.3 | 416000 |
| 26.2 | 384000 |
| 26.1 | 352000 |

| | |
|-----------|--------------|
| 23.4 | 56000 |
| 23.3 | 52000 |
| 23.2 | 48000 |
| 23.1 | 44000 |
| 23 | 40000 |
| 22.9 | 38000 |
| 22.8 | 36000 |
| 22.7 | 34000 |
| 22.6 | 32000 |
| 22.5 | 30000 |
| 22.4 | 28000 |
| 22.3 | 26000 |
| 22.2 | 24000 |
| 22.1 | 22000 |

| | |
|-----------|-------------|
| 19.4 | 3500 |
| 19.3 | 3250 |
| 19.2 | 3000 |
| 19.1 | 2750 |
| 19 | 2500 |
| 18.9 | 2380 |
| 18.8 | 2260 |
| 18.7 | 2140 |
| 18.6 | 2020 |
| 18.5 | 1900 |
| 18.4 | 1780 |
| 18.3 | 1660 |
| 18.2 | 1540 |
| 18.1 | 1420 |
| 18 | 1300 |
| 17.9 | 1234 |
| 17.8 | 1168 |
| 17.7 | 1102 |
| 17.6 | 1036 |
| 17.5 | 970 |
| 17.4 | 904 |
| 17.3 | 838 |
| 17.2 | 772 |
| 17.1 | 706 |
| 17 | 640 |

It is interesting to note that by reducing the overall contamination levels by a single point eg. 29 down to 28, the overall level of contamination is halved.

For example, a reading of 29 shows an unacceptably high level of fuel impurity with a reading of 2,500,000. By reducing the contamination levels to 28, the impurity level reduces to 1,300,000. This trend continues throughout the table.

During the fuel purification process, these counts rapidly reduce until acceptable levels of fuel cleanliness are achieved. Readings of 20 or lower display a cleanliness fuel cleanliness that is acceptable for use.

The decimal point readings allow for greater accuracy of fluid cleanliness and allow producers to pinpoint fuel cleanliness levels, compare test results and to take complete control of production quality.