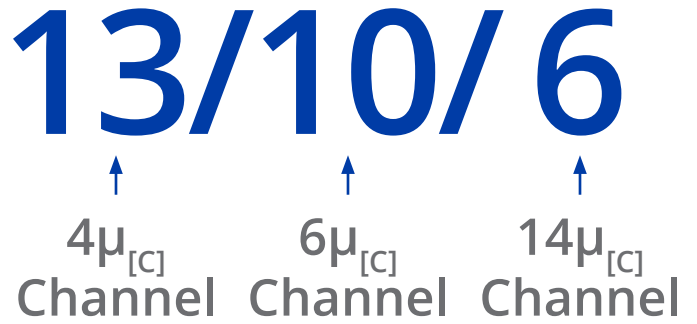


Understanding ISO Codes

The ISO Cleanliness Code (per ISO4406-1999) is used to quantify particulate contamination levels per milliliter of fluid at 3 sizes - $4\mu_{[C]}$, $6\mu_{[C]}$, and $14\mu_{[C]}$. It is expressed in 3 numbers (example 19/17/14) where each number represents a contaminant level code for the correlating particle size. The code includes all particles of the specified size and larger.

It is important to note that each time a code increases, the quantity range of particles is doubling. Inversely, as a code decreases by one the contaminant level is cut in half.

ISO Code Example:



ISO 4406:1999 Code Chart

ISO Code	Particles per Milliliter (PPM)		Sample Values Before Filtration			
	Lower Limit	Upper Limit	Particle Size	PPM	ISO 4406 Code Range	ISO Code
24	80,000	160,000	$4\mu_{[C]}$	151773	80,000-160,000	24
23	40,000	80,000	$4.6\mu_{[C]}$	87210		
22	20,000	40,000	$6\mu_{[C]}$	38363	20,000-40,000	22
21	10,000	20,000	$10\mu_{[C]}$	8229		
20	5,000	10,000	$14\mu_{[C]}$	3339	2,500-5,000	19
19	2,500	5,000	$21\mu_{[C]}$	1048		
18	1,300	2,500	$38\mu_{[C]}$	112		
17	640	1,300	$68\mu_{[C]}$	2		
16	320	640				
15	160	320				
14	80	160				
13	40	80	$4\mu_{[C]}$	69	40-80	13
12	20	40	$4.6\mu_{[C]}$	35		
11	10	20	$6\mu_{[C]}$	7	5-10	10
10	5	10	$10\mu_{[C]}$	5		
9	2.5	5	$14\mu_{[C]}$	0.4	0.32-0.64	6
8	1.3	2.5	$21\mu_{[C]}$	0.1		
7	0.64	1.3	$38\mu_{[C]}$	0.0		
6	0.32	0.64	$68\mu_{[C]}$	0.0		

Fluid Cleanliness Code Comparisons

ISO/DIS 4406 BS 5540/4 Codes	NAS 1638	SAE 749	Defence Standard 05/42	
			Table A	Table B
25/23/17			100,000	
24/22/15			21,000	
23/21/18	12			
23/21/14			15,000	
22/20/17	11			
22/20/13			6,300	
21/19/16	10			
21/19/13			4,400	6,300F
20/18/15	9	6		
20/18/13				4400F
20/18/12			2,000	
19/17/14	8	5		
19/17/11			1,300	2,000F
18/16/13	7			
18/16/11				1,300F
18/16/10			800	
17/15/12	6	3		
17/15/10				800F
17/15/09			400	
16/14/11	5	2		
16/14/09				400F
15/13/10	4	1		
14/12/09	3	0		
13/11/08	2			