

# TECH TIPS

## FUEL CLEANLINESS

### Tougher requirements for cleaner fuel.

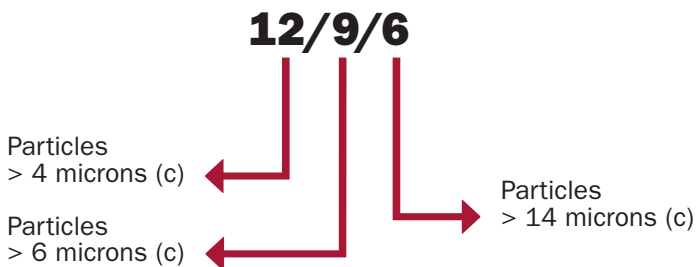
Due to tight tolerances between moving components of a fuel injection system, microscopic particles can cause severe damage to injectors and other fuel system components.

More and more High Pressure Common Rail fuel system and Tier 4 engine manufacturers require diesel fuels meet ISO 4406 12/9/6 cleanliness level before it reaches the pressurized fuel system.

#### ISO 4406 12/9/6 Cleanliness Code

- Required by diesel fuel injector manufacturers
- 64 times cleaner than fuel entering equipment at manufacturer recommended ISO 4406 18/16/13 cleanliness level
- Noncompliance may void engine warranties

ISO CODE NUMBER	NUMBER OF PARTICLES PER ML	
	(MORE THAN)	(UP TO & INCLUDING)
28	1,300,000	2,500,000
27	640,000	1,300,000
26	320,000	640,000
25	160,000	320,000
24	80,000	160,000
23	40,000	80,000
22	20,000	40,000
21	10,000	20,000
20	5,000	10,000
19	2,500	5,000
18	1,300	2,500
17	640	1,300
16	320	640
15	160	320
14	80	160
13	40	80
12	20	40
11	10	20
10	5	10
9	2.5	5
8	1.3	2.5
7	0.6	1.3
6	0.3	0.6



ISO CODE NUMBER	MICRON PARTICLE SIZE	ACTUAL PARTICLE COUNT RANGE (per ml of fluid sample)
12	> 4 micron (c)	> 20 - 40
9	> 6 micron (c)	> 2.5 - 5
6	> 14 micron (c)	> 0.3 - 0.6

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