

XU Grade #2 Ultra Low Sulfur Diesel Fuel Specifications

Rocky Mountain System:

Product Property	Method	Minimum	Maximum	Deliveries ^{1/}
Gravity, °API	D287	Report		
Color	D1500		2.5	3
Distillation ^{4/}	D86, D2887			
50% Recovered, °F		Report		
90% Recovered, °F		540	640	
Copper Corrosion	D130		1	
Cetane				
Cetane Number	D613	40		
Or				
Cetane Index, A or B	D4737	40		
Cetane Index ^{2/}	D976	40		
Flash Point, °F	D93	134		130
Stability				
Thermal, % reflectance (W or Y)	D6468 (W)	75		
	D6468 (Y)	82		
Aging Period (Minutes)	D6468	90		
Or				
Oxidation, mg/100 ml	D2274		2.5	
Carbon Residue on 10% Bottoms, wt %	D524		0.35	
Cloud Point, °F	D2500			
October-March			+5	
April-September			+20	
Pour Point, °F	D97			
October-March			-20	
April-September		Report		
Viscosity, cSt at 104 °F	D445	1.9	4.1	
Ash, wt %	D482		0.01	
Haze Rating ^{3/}	D4176		2	3
NACE Corrosion	TM0172, D7548	B+		
Sulfur, ppm	D2622		12	

Revision Date: December 1, 2015v2



XU Grade #2 Ultra Low Sulfur Diesel Fuel Specifications (continued)

Foot Notes:

- Delivered products meet all applicable requirements at time and place of delivery and the product transfer documents will include the sulfur per-gallon standard that the fuel meets per 40 CFR 1090.1165(a)(1) and an accurate and clear designation of the fuel per 40 CFR 1090.1165(a)(2).
- 2/ ASTM D976 used to demonstrate aromatics compliance per 40 CFR 1090.305.
- 3/ Compliance with ASTM D4176 will be determined using Procedure 2 at 77 °F or tank temperature at the time of sampling, whichever is lower.
- 4/ ASTM D2887 Simulated Distillation results must be reported after D86 correlation.

Notes:

- XU complies with the ULSD standards of 40 CFR 1090.305.
- XU is designated as ULSD in accordance with 40 CFR 1090.1115.

Additional Requirements:

Biodiesel: The presence of biodiesel is prohibited.

Dyes: X Grade shipments may not be dyed.

Revision Date: December 1, 2015v2