

## ISO 8217 Specs 2010, Residual Grades

Test	Unit	Limit	Category										
			RMA	RMB	RMD	RME	RMG				RMK		
			10	30	80	180	180	380	500	700	380	500	700,0
Viscosity at 50°C	mm <sup>2</sup> /s	max.	10,0	30,0	80,0	180,0	180,0	380,0	500,0	700	380,0	500,0	700,0
Density at 15°C	kg/m <sup>3</sup>	min.	920,0	960,0	975,0	991,0	991,0				1010,0		
CCAI	-	max.	850	860	860	860	870				870		
Sulfur	mass %	max.	Statutory Requirements										
Flash point	°C	min.	60,0	60,0	60,0	60,0	60,0				60,0		
Hydrogen Sulfide	mg/kg	max.	2,00	2,00	2,00	2,00	2,00				2,00		
Acid number	mg KOH/g	max.	2,5	2,5	2,5	2,5	2,5				2,5		
Total sediment aged	mass %	max.	0,10	0,10	0,10	0,10	0,10				0,10		
Carbon residue	mass %	max.	2,50	10,00	14,00	15,00	18,00				20,00		
Pour point (upper)	Winter Quality	°C	0	0	30	30	30				30		
	Summer Quality	°C	6	6	30	30	30				30		
Water	volume %	max.	0,30	0,50	0,50	0,50	0,50				0,50		
Ash	mass %	max.	0,040	0,070	0,070	0,070	0,100				0,150		
Vanadium	mg/kg	max.	50	150	150	150	350				450		
Sodium	mg/kg	max.	50	100	100	50	100				100		
Aluminium plus silicon	mg/kg	max.	25	40	40	50	60				60		
Used lubricating oils (ULO): -calcium and zinc; or -calcium and phosphorus	mg/kg	-	The fuel shall be free from ULO. A fuel shall be considered to contain ULO when either one of the following conditions is met: calcium > 30 and zinc > 15; or calcium > 30 and phosphorus > 15										