



Info letter N° 3/2010 Rapeseed oil as fuel DIN 51605:2010-10

The standard for requirements "rapeseed fuel for Diesel engines" has just been published as an official DIN standard. The most important changes to the former prestandard V DIN 51605:2006 are highlighted with yellow colour in the table below. The oxide ash and carbon residue are no longer listed in the standard and therefore do not have to be analysed any more.

Parameter	Method	DIN 51 605:2010-10		Unit
		min.	max.	
Visual Inspection ¹	-	Limpid, no free water visible, no contaminations visible		-
Density at 15 °C	DIN EN ISO 3675 DIN EN ISO 12185	910,0	925,0	kg/m ³
Viscosity at 40 °C	DIN EN ISO 3104	-	36,0	mm ² /s
Calorific Value, lower ³	DIN 51900-1,2 DIN 51900-1,3	36,0	-	MJ/kg
Iodine Value ⁴	DIN EN 14111	-	125	g Iod/100g
Acid Value	DIN EN 14104	-	2,0	mg KOH/g
Flash Point	DIN EN ISO 2719	101	-	°C
Ignition Quality (DCN) ⁶	analog DIN EN 15195	40	-	-
Oxidation Stability at 110 °C	DIN EN 14112	6,0	-	h
Total Contamination	DIN EN 12662:1998-10	-	24	mg/kg
Sulfur Content	DIN EN ISO 20884 DIN EN ISO 20846	-	10	mg/kg
Phosphorous Content (until 31.12.2011)	DIN EN 14107 DIN 51627-6	-	12	mg/kg
Ca + Mg (until 31.12.2011)	DIN EN 14538 DIN 51627-6	-	20	mg/kg
Phosphorous Content (from 01.01.2012) ⁸	DIN 51627-6	-	3,0	mg/kg
Ca Content (from 01.01.2012) ⁸	DIN 51627-6	-	1,0	mg/kg
Mg Content (from 01.01.2012) ⁸	DIN 51627-6	-	1,0	mg/kg
Water Content	DIN EN ISO 12937	-	750	mg/kg

1. The visual appearance that has already been described in our reports has now become an official parameter of the standard.
2. The range for density was matched closer to values of rapeseed.
3. The unit for calorific value was changed from kJ/kg to MJ/kg.
4. A lower limit for the iodine number was cancelled.
5. The limit for flash point was lowered from 220 °C to 101 °C. This opens the possibility for adding permitted additives e.g. for the ignitability.
6. The limit for ignitability was increased from 39 to 40. The ignitability test is now done like "The constant volume procedure" according to DIN EN 15195.
7. The precision of determination of total contamination is insufficient. Therefore it was fixed in a footnote that this parameter is not applicable in case of a dispute. A CEN working group is trying to develop a more suitable procedure.
8. From 01.01.2012 there will be lower limits for the contents of phosphorous, calcium and magnesium.