

Table 1. Typical properties of pure Neste Renewable Diesel and how it relates to EN 15940, EN 590 and ASTM D975 standards.

Property		Neste Renewable Diesel	EN 15940:2016 Class A	EN 590:2013	ASTM D975:15b
Appearance at +25 °C		Clear & Bright			
Cetane number		> 70.0	≥ 70.0	≥ 51.0	≥ 40
Density at +15 °C	kg/m <sup>3</sup>	770.0...790.0	765.0...800.0	820.0...845.0 ≥ 800.0 *	
Total aromatics	% (m/m)	< 1.0	≤ 1.1		≤ 35
Polyaromatics	% (m/m)	< 0.1		≤ 8.0	
Sulfur	mg/kg	< 5.0	≤ 5.0	≤ 10.0	≤ 15
FAME-content	% (V/V)	0	≤ 7.0	≤ 7.0	
Flash point	°C	> 61	> 55	> 55	> 52
Carbon residue on 10 % distillation	% (m/m)	< 0.10	≤ 0.30	≤ 0.30	≤ 0.35
Ash	% (m/m)	< 0.001	≤ 0.010	≤ 0.010	≤ 0.01
Water	mg/kg	< 200	≤ 200	≤ 200	
Total contamination	mg/kg	< 10	≤ 24	≤ 24	
Water and sediment	% (V/V)	≤ 0.02			≤ 0.05
Copper corrosion		Class 1	Class 1	Class 1	Class 3
Oxidation stability	g/m <sup>3</sup> h	< 25	≤ 25 ≥ 20 **	≤ 25 ≥ 20 **	
Lubricity HFRR at +60 °C	µm	≤ 460 *** ≈ 650 ****	≤ 460	≤ 460	≤ 520
Viscosity at +40 °C	mm <sup>2</sup> /s	2.00 ... 4.00	2.000 ... 4.500	2.000 ... 4.500 ≥ 1.200 *	1.9...4.1
Distillation 95% (V/V)	°C	< 320	≤ 360	≤ 360	
90% (V/V)	°C	282 ... 338			282...338
Final boiling point	°C	< 330			
Cloud point and CFPP *****	°C	As needed -5...-34	As in EN 590	Down to -34	
Antistatic additive		Added			
Conductivity	pS/m	≥ 50			≥ 25

Data for EN 15940 and EN 590 reproduced with the permission of CEN – © all rights reserved.

\*) Winter grades

\*\*) Additional requirement if contains above 2 vol-% FAME

\*\*\*) Including lubricity additive when delivered to be used as such in vehicles which are validated for EN 15940 fuel

\*\*\*\*) If delivered without lubricity additive to be used as a blending component, preference is to add lubricity additive into the final blend

\*\*\*\*\*) If delivered as such, CFPP will be near the cloud point

## EN 590:2013 diesel fuel standard

### EN 590

- defines properties of "B7" diesel fuel sold at retail
- does not take any position on how and from what feedstock fuel is processed
- limits the use of FAME to max. 7 vol-%
- allows HVO without any limit
  - HVO can be blended as such or in addition to max 7 vol-% FAME
- allows HVO without pump labeling