



Biodiesel Approval for the Operation of Heavy and Light Duty Vehicles (B100)



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It has been around now for some 15 years – the manufacturers' Biodiesel approval list; its updated version is now available.

The use of Biodiesel has undergone massive changes in recent years. The approvals for passenger cars expired upon the introduction of new exhaust gas after-treatment systems, and the importance of Biodiesel as pure fuel decreased significantly, not least due to the economic framework conditions.

Many engine manufactures recommend to additionally bear in mind that any suppliers and producers implement supervised quality systems. In order to make sure that you always receive high quality fuel so that problems can thus not occur you should already pay attention to the following aspects when purchasing:

- Only purchase Biodiesel complying with DIN EN 14214
- Request a current certificate of analysis (CoA) for every delivery
- Compared to its fossil counterpart Biodiesel is more sensitive to influences occurring during

However, in practice it becomes evident that for Biodiesel as pure fuel there are still important applications for the optimum use of its environmental advantages. So also today many engine manufactures are willing to create the technical conditions for the use of Biodiesel and to approve their engines for B100. The current list presented here gives an overview of the approved commercial vehicles and engines and provides important advice concerning the purchase and quality of Biodiesel.

storage. To assure long-time storage, oxidation stabilizers should already be added during production; the use of additives must be documented on the delivery note or CoA.

- Make sure that your storage tank is empty when you switch from summer to winter quality.

Users of Biodiesel of AGQM members are always on the safe side. Covering purchase, transport and production the quality management system of Arbeitsgemeinschaft Qualitätsmanagement Biodiesel e. V. (AGQM) assures that the current requirements of the European standard DIN EN 14214 as well as those of the vehicle manufacturers are met. In addition

Tips for the Purchase of Biodiesel – Purchase Conditions and Quality Assurance

Quality is the deciding factor – when it comes to cars, in particular concerning the fuel used. Basically, fuels must meet the minimum requirements of the valid standard – for Biodiesel in Germany this is DIN EN 14214 which is also stipulated in the car manufacturers' product information as prerequisite for trouble-free operation and warranty.

AGQM checks against own quality standards. So when purchasing Biodiesel watch out for the AGQM logo.



PLEASE NOTE:

If vehicles are operated with Biodiesel without the manufacturer's general approval, the authorized service center should be consulted.

Additional information is available under www.agqm-biodiesel.de

Caterpillar/Zeppelin

Approved engine types	Vehicle types	Auxiliary heating	Other
3046, 3066, 3114, 3116, 3126, 3176, 3196, 3208, 3306	-	-	-
C-9, C-10, C-12, C-15, C-16	-	-	Recommendation B30
3406, 3456, 3408, 3412	-	-	Oil diagnosis system recommended
3064	314 C LRC mini hydraulic excavator	-	-
3176	815 F compactors, D7R Series 2 track-type tractor	-	-
Series 3500	994 F wheel loader, 793D/789C mining truck	-	-
Series C175	-	-	-
Series 3600	-	-	-
Series C280	-	-	-
Series CM 20	-	-	-
Series CM 25	-	-	-
Series CM 32	-	-	-
Cat® C7 diesel with ACERT™ concept up to production year 2006	324D L/LN, 325D L/LN, 330D L demolition machines, 329D L/LN hydraulic excavator, M325D MH/LMH material handler, 328 D LCR tunnel excavator, 328 D LCR mini hydraulic excavator, 962 H/950 H wheel loader, 325D long reach excavator, AP 755 paver, PM 102 cold planer, 140M motor grader	-	-
Cat® C9 diesel with ACERT™ concept up to production year 2006	336D L/LN hydraulic excavator, 330 D long reach excavator, 330D demolition machine, 973 C track loader, D6T track-type tractor	-	-
Cat® C11 diesel with ACERT™ concept up to production year 2006	966 H wheel loader, 735/740 articulated truck, RM300 rotary mixer, 14M motor grader	-	-
Cat® C13 diesel with ACERT™ concept up to production year 2006	345D L hydraulic excavator, 345C L demolition machine, 345C long reach excavator, 972 H wheel loader	-	-
Cat® C15 ATAAC diesel with ACERT™ concept up to production year 2006	365C L hydraulic excavator, 365C demolition machine, 980 H wheel loader, 735/740 articulated truck, 770 off-highway truck, 621/627G scraper, RM500 rotary mixer, 587/583 T pipelayer, 824H wheel dozer, 825H compactor, D8T track-type tractor	-	-

Approved engine types	Vehicle types	Auxiliary heating	Other
Cat® C27 diesel with ACERT™ concept up to production year 2006	990H wheel loader, 773/775 F off-highway truck, D10T track loader	-	-
Cat® C32 diesel with ACERT™ concept up to production year 2006	992/993 K wheel loader, 777 off-highway truck, D11T/T CD track loader	-	-

DAF Trucks Deutschland GmbH

Approved engine types	Vehicle types	Auxiliary heating	Other
XE engine	XF95 vehicles	Airtronic D4S, Eberspächer D1LC compact, D3LC compact	-
PE or XE engine from vehicle id-number 0E552891	CF75/85 vehicles	-	-
PR oder MX engine	CF75/85 and XF105 vehicles	-	-
BE, CE engines	-	-	-

Daimler AG (EvoBus GmbH)

Approved engine types	Vehicle types	Auxiliary heating	Other
BR 300 from prod. year 1988	-	-	-
BR 400 from prod. year 1988 OM 457 LA/hLA from series use	Citaro/Citaro Ü, CapaCity, Travega, Tourismo, Integro	-	Conversion necessary
BR 900 from series use (OM 926 LA)	Tourino	-	-
BR 500 from series use OM 502 LA	Travego	-	-

Deutz

Approved engine types	Vehicle types	Auxiliary heating	Other
Off-highway			
1011/2011 to Tier 3 stage IIIA	-	-	-
1012/1013/2012/2013 to Tier 2 stage II	-	-	-
TCD 2012/2013/2V/4V Tier 3 stage IIIA	-	-	-
TCD 2012 2V/4V DEUTZ Natural Fuel Engine	-	-	And 100% plant oil
2015 to Tier 3 stage IIIA	-	-	Approval for engines from 01.07.2010, retrofitting possible with earlier production date
413/513/912/913/914	-	-	-
Commercial vehicles			
TCD 2013 to Euro III	-	-	-
TCD 2013 from Euro IV	-	-	Approved to 30% EN14214
Marine engines 912/913/1013M/1015M/2015M/914M	-	-	-

Irisbus Deutschland GmbH

Approved engine types	Vehicle types	Auxiliary heating	Other
IVECO Cursor engine 8	Citelis articulated bus, Crossway Le Intercity 12m/12,8m, Evadys H 12m/12,8m, Citelis Line	-	-
IVECO Cursor engine 10	Evadys HD 12m/12,8m	-	-
Cursor 8/10/13 engines with PDE	Stralis, Trakker	-	NOx Sensor (SW 14583 and 14584), retrofit kit

IVECO AG

Approved engine types	Vehicle types	Auxiliary heating	Other
Cursor 8/10/13 engines with PDE	EuroTech, EuroStar, EuroTrakker, Stralis, Trakker	-	-

Liebherr

Approved engine types	Vehicle types	Auxiliary heating	Other
Crawler excavator (earthmoving)			
636/1038	R 313	-	-
970/1042	R 317	-	-
971/981/982/1076	R 900	-	-
Wheeled excavator (material handling)			
1041	A 316	-	-
440/477/1004/1071	A 904	-	-
958/959/1050/1051/1049	A 924	-	-
934/935/1006/1007/1053	A 934	-	-
194/196	A 944	-	-
450	A 954	-	-
Crawler excavator (material handling)			
1043	R 317	-	-
Off-road crawler excavator			
-	D 904, 906, 914, 916, 924, 926, 9306, 9308, 9406, 9408, 934, 936, 946	-	-
-	D 504, 404	-	-
-	D 846	-	-

Liebherr

Approved engine types	Vehicle types	Auxiliary heating	Other
Dredger crane			
-	HS 825, 835, 845, 855, 885	-	-
-	HS 875, 885, 895	-	Retrofit kit on request
Crawler crane			
-	LR 1100, 1130, 1160, 1200, 1280, 1300	-	-
Piling and drilling rigs			
-	LRB 125, 155	-	-
-	LRB 255	-	Retrofit kit on request
Drilling rigs			
-	LB 16, 20, 24, 28, 36	-	-
Wheel loaders			
-	L 538, 542, 550, 556, 566, 576, 580, 586	-	-
Wheeled excavator (earthmoving)			
717/1035	A 309	-	-
718/1035	A 311	-	-
719/1037	A 312	-	-
1039	A 314	-	-
1040	A 316	-	-
1002	A 900	-	-
729/730/931/979/1030/1031/1032/1033	A 900 ZW	-	-
439/441/1003/1005	A 904	-	-
954/955/1044/1045/1046	A 914	-	-
956/957/1047/1048	A 924, A 924 C Plus	-	-

MAN Nutzfahrzeuge AG

Approved engine types	Vehicle types	Auxiliary heating	Other
D08 from production date 10/98 EURO 5 EEV	TGL/TGM series	Airtronic D4S, Hydronic D5WSC, D1LCC, D3LCC	All trucks that use FAME driven engines are equipped with FAME compatible components also on the chassis side (fuel system, tank transmitter)
D20 EURO 5 EEV	TGX/TGS series	-	-
D26 EURO 5 EEV	TGX/TGS series	-	Approval on request for vehicles with CRT filter
D28 from production date 10/98 EURO 5 EEV	-	-	-

Mercedes-Benz-Trucks

Approved engine types	Vehicle types	Auxiliary heating	Other
BR 500	Actros	-	-
BR 900	Atego, Axor, Econic	-	-
BR900 (OM 926 LA)	Zetros	-	-
BM 457.9	Axor	-	-

Neoplan Bus GmbH (MAN-Gruppe)

Approved engine types	Vehicle types	Auxiliary heating	Other
MAN D26	Starliner	-	Urban and rural buses, tourist coaches
MAN D2676 LOH/LOH 02 EUR 4	Skyliner, Cityliner, Tourliner	-	-
MAN D2066 LOH, EUR 4 or EEV	Cityliner, Tourliner	-	-
MAN D2066 LUH	Centroliner	-	-

Renault Trucks Deutschland GmbH

Approved engine types	Vehicle types	Auxiliary heating	Other
-	-	-	Overall approval for 30% admixture; no overall approval for using 100% biodiesel but separate agreement in exceptions on extended use of biodiesel for 11 and 13 litre engines

SCANIA

Approved engine types	Vehicle types	Auxiliary heating	Other
-	-	-	All vehicles can generally be converted to run on B100 (except for engines with injection pumps, type XPI, type HPI for buses only)

SETRA-Omnibusse (EvoBus GmbH)

Approved engine types	Vehicle types	Auxiliary heating	Other
BR 500 (OM 501 LA)	TopClass 400 - S 411 HD	-	-
BR 500 (OM 502 LA)	TopClass 400: S 431 DT, ComfortClass 400: S 419 GT HD	-	-
BR 400 (OM 457 LA/hLA)	TopClass 400: S 415 HD/HDH, 416 HDH, 417 HDH, ComfortClass 400: S 415 GT/GT HD, 416 GT/GT HD/GT HD 2, 417 GT HD MultiClass 400: S 412 UL, 415 UL/NF, 416 UL/NF, 417 UL, 419 UL	-	-
BR 900 (OM 926 LA)	-	-	-

Volvo Trucks

Approved engine types	Vehicle types	Auxiliary heating	Other
-	-	-	all Volvo Trucks engines are approved for fuels up to B30 (Deutz engines)

Welte Forst- und Kommunalmaschinen

Approved engine types	Vehicle types	Auxiliary heating	Other
D11, D12 and D16 (approved for B30)	FH, FM, FMX and FH16	-	-
Forestry machinery			
W130	-	-	-
Municipal machinery			
W130K, W130M, W130T	-	-	-
W230, W210	-	-	-
W240	-	-	-

Note:

Despite diligent and thorough research the correctness of all information given cannot be guaranteed. Therefore, we strongly recommend to obtain the approval confirmation of any vehicle in question from the relevant vehicle or engine manufacturer and to also ask for information concerning any existing maintenance or service regulations.

Further information on biodiesel is obtainable from the following associations:



**Association of German
Biofuel Industries (VDB)**

Am Weidendamm 1 A
10117 Berlin
info@biokraftstoffverband.de
www.biokraftstoffverband.de



**German Union for the Promotion of
Oilseeds and Protein Plants (UFOP)**

Claire-Waldoff-Straße 7
10117 Berlin
info@ufop.de
www.ufop.de



**Association of the German
Biofuel Industry (AGQM)**

Claire-Waldoff-Straße 7
10117 Berlin
info@agqm-biodiesel.de
www.agqm-biodiesel.de