



Technical Bulletin

0199-99-01210/4 EN



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Author: Andreas Rill, MC-II
Phone: +49 (0) 221 822-2712
Fax: +49 (0) 221 822-15 2712

DEUTZ AG
Ottostraße 1
51149 Köln

www.deutz.com

DEUTZ engines

- All current DEUTZ engines
- Assemblies:
99

Engine problems due to stuck/resinated fuel injectors introduction DEUTZ diesel additive "DEUTZ Clean-Diesel InSyPro®"

Replacement is made because of:

- Release for engines with exhaust gas after-treatment
(from US EPA Tier 4 interim / EU Stage IIIB)

General

Greater percentages of biodiesel (FAME) are now contained in diesel fuels in accordance with EU directives and many other national regulations. The current diesel fuel norms in Germany / Europe (EN 590) allow for a biodiesel percentage of up to 7% (V/V).

There are also special diesel/biodiesel fuel blends such as B20 and B30 according to EN 16709 or in the USA B6 to B20 pursuant to ASTM 7467. Fuel blends based on soya oil methyl ester (SME) are often manufactured in countries outside of Europe (USA, South America, Asia). Because of its chemical properties SME without additives is significantly worse specifically in terms of oxidation stability than biodiesel according to EN 14214, which is generally produced based on rapeseed oil methyl ester (RME).

These bio components in the fuel behave differently to fuels without biodiesel components added, especially during storage.

The biodiesel components in the fuel can decompose under the influence of temperature, air oxygen and time. This produces deposits in the injection system during operation which can lead to sticking of the injectors and pumps especially in the current Common Rail injection systems. The results are ignition failure, black smoke, starting problems and increased fuel consumption.

Note:
The part numbers indicated in this document are not subject to updating.
Binding for the identification of spare parts is exclusively the spare parts documentation.

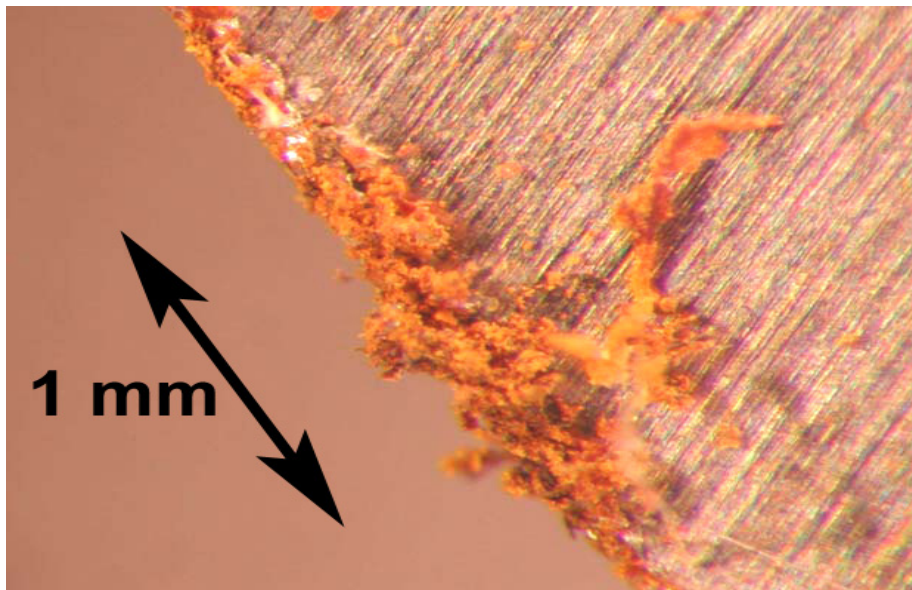
Change in pure biodiesel in storage at 50°C

Oxidised fuel parts give it a dark colour.



A 1 Change in pure biodiesel in storage at 50°C.

Deposits from a pump plunger after prolonged engine standstill with a diesel fuel containing biodiesel



A 2 Deposits from a pump plunger

To avoid these negative influences, DEUTZ AG has now developed a fuel additive specially adapted to the DEUTZ engines which prevents premature ageing of the biodiesel parts and can effectively eliminate deposits which have already been left.



The use of the fuel additive DEUTZ Clean-Diesel InSyPro[®] is approved for the stated dosage for all current DEUTZ engines. The application is also permitted for engines that meet current requirements for emissions limit values (from US EPA Tier 4 interim / EU Stage IIB) by using exhaust gas after-treatment technologies (SCR, DPF, DOC).

SCR = Selective catalytic reduction (nitrogen oxide (NOx) reduction using ammonia by adding a 32.5 % urea solution (Adblue[®] / DEF / AUS 32)

DPF = Diesel Particle Filter

DOC = diesel oxidation catalytic converter

"DEUTZ Clean-Diesel InSyPro[®]"

Main properties

"Keep Clean"

- Increase in the oxidation stability of the used fuel when using biogenic fuels (biodiesel (FAME) or plant oils).
- Protects against deposits and sticking.
- Therefore prolongs the storage time of these fuels.
- Reduces incidences of filters becoming contaminated and clogged.

Recommended area of application

- For preservation of engines which are out of operation for a long time.
- Devices with longer storage periods without operation (e.g. new devices in the delivery).
- Operation with biodiesel (FAME).
- Operation with pure vegetable oil (only applies for DEUTZ Natural Fuel Engine[®]).

"Clean-Up"

- Dissolves deposits in injectors, injection pumps and lines and makes them as good as new provided there is no mechanical damage.
- Increased smoke values are normalised.
- Reduces fuel consumption with improved engine performance.
- Protects against corrosion.
- Improves poor lubricating properties.

Recommended area of application

- For start problems and increased smoke values.
- First "application alternative" with injector problems.
- In regions with poor quality fuel.

The above properties were proven both in laboratory tests and in practical use.



For use in DEUTZ engines, only the additive **DEUTZ Clean-Diesel InSyPro[®]** is approved.

The use of other, unapproved additives may lead to the loss of warranty rights.

The additive is suitable for all internationally approved diesel and biodiesel fuels as well as diesel/biodiesel blends.

In addition, tests on injection components in use in the field have revealed that these can be returned to a functioning state in case of problems by treating with "DEUTZ Clean Diesel InSyPro[®]" and therefore save cost-intensive exchange.

Machine downtimes are also avoided in addition to saving costs.

For the above reasons we urgently recommend the use of "DEUTZ Clean Diesel InSyPro[®]" when the following conditions are satisfied:

- 1 Devices which are not put into operation at the OEM or for more than 3 months after production.
"Keep Clean"
- 2 Devices which are operated in regions with poor quality fuel.
"Clean-Up"
- 3 If problems in the injection system (start problems and increased smoke values) are reported, at least one or better still two tank fillings should be operated with the additive in the fuel before exchanging expensive components.
"Clean-Up"
- 4 Operation with biodiesel (FAME) or with vegetable oil (only applies for DEUTZ Natural Fuel Engine[®]), see Technical Bulletin 0199-99-01218 for fuels.
"Keep Clean"
- 5 Corrosion protection of engines (see Technical Bulletin 0199-99-01170).
"Keep Clean"
- 6 Engines which are shut down at the end customers for more than 3 months (e.g. harvesting machinery).
"Keep Clean"



The "DEUTZ Clean Diesel InSyPro[®]" additive



A 3 "DEUTZ Clean Diesel InSyPro[®]"

Available under:

DEUTZ Clean Diesel InSyPro [®]	
Container size:	Part no.:
0,25 litre	01017969
1 litre	01017967
5 litre	01017968

Application instructions



See the safety instructions in the safety data sheet!

- For good mixing first put in the additive and then top up with diesel fuel.



Avoid overdosing!

- Dosing

Type of application	Dosing
Shock cleaning "Clean-Up"	1:200 or 1 litre per 200 litres of diesel 0.5 litres per 100 litres of diesel 0.25 litres per 50 litres of diesel
Preventive protection and for diesel purification "Keep Clean"	1:400 or 1 litre per 400 litres of diesel 0.5 litres per 200 litres of diesel 0.25 litres per 100 litres of diesel

- Repeated application is recommended in connection with lubricating oil changes (usually every 500 oh).
- The compact container size of 0.25 litres (part no.: 01017969) can be easily stowed away and depleted in one to two fuelling processes. It is especially recommended for use in maintenance kits (as a rule every 500 oh).



The stated dosage of the fuel additive DEUTZ Clean-Diesel InSyPro[®] must be adhered to precisely, as otherwise no optimum effect can be achieved.



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If you have questions on this topic, please contact the staff member(s) below.

Email: service-kompaktmotoren.de@deutz.com

For the America region:

Email: service@deutzusa.com

For the Asia region:

Email: dapservice@deutz.com

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