

ENI S.p.A.
Via Laurentina 449
00142 Rome
Italy
Att: Mr. Carlo Gommellini

APPROVAL OF ENI S.p.A. LUBRICATING OILS

Dear Sir,

The ENI S.p.A. lubricating oil Cladium 400 S, has gone through a 6097-hour field test on the Wärtsilä® 8L46 No. 9904 engine at the Finsa Cesures power plant located in Spain. Based on the lubricating oil analyses and the results of the engine inspection, Wärtsilä Engine Division hereby approve use of the following ENI S.p.A. products:

Product	SAE grade	Base Number	Fuel category, (ISO 8217:1996(E))
Cladium 300 S SAE 30	30	30	ISO-F-DMX, DMA, DMB, DMC, ISO-F-RMA 10 – RMK 55, CRO *)
Cladium 300 S SAE 40	40	30	ISO-F-DMX, DMA, DMB, DMC, ISO-F-RMA 10 – RMK 55, CRO *)
Cladium 400 S SAE 30	30	40	ISO-F-DMC, ISO-F-RMA 10 – RMK 55, CRO *)
Cladium 400 S SAE 40	40	40	ISO-F-DMC, ISO-F-RMA 10 – RMK 55, CRO *)
Cladium 500 S SAE 30	30	50	ISO-F-DMC, ISO-F-RMA 10 – RMK 55, CRO *)
Cladium 500 S SAE 40	40	50	ISO-F-DMC, ISO-F-RMA 10 – RMK 55, CRO *)
Cladium 550 S SAE 30	30	55	ISO-F-DMC, ISO-F-RMA 10 – RMK 55, CRO *)
Cladium 550 S SAE 40	40	55	ISO-F-DMC, ISO-F-RMA 10 – RMK 55, CRO *)

*) CRO stands for crude oil meeting Wärtsilä's CRO specification.



Wärtsilä Finland Oy

Engine Division

Handled by
K Juoperi

Reference
Cladium S AL.doc

Date
14 January 2005

Revision

Page
2 (2)

The approval is valid for the engine types Wärtsilä® Vasa 22 / 22/26, Wärtsilä® Vasa 32 / 32LN, Wärtsilä® 20, Wärtsilä® 26, Wärtsilä® 32, Wärtsilä® 38, Wärtsilä® 46, Wärtsilä® 64 and Sulzer® Z40 / ZA40 / ZA40S provided that the fuel quality also meets the fuel specification of Wärtsilä.

Approval for other older engine types manufactured by Wärtsilä can be requested from Wärtsilä Service units being in response of a particular engine type in question.

Use of SAE 30 lubricating oils is only allowed in the engine types Wärtsilä® Vasa 22 / 22/26 and Wärtsilä® Vasa 32 / 32LN. In these engine types the suitability of SAE 40 grade depends on the capacity of the lubricating oil cooler used in the installation.

In the engine types Wärtsilä® Vasa 32 / 32LN, Wärtsilä® 20, Wärtsilä® 26, Wärtsilä® 32, Wärtsilä® 38, Wärtsilä® 46, and Wärtsilä® 64 the use of BN 50-55 lubricants in heavy fuel installations is recommended in the first place, especially if fuel sulphur content is above 2.0 % mass. BN 40 lubricants can be used as well as if experience shows that the lubricating oil BN equilibrium remains at an acceptable level. BN 30 lubricants are recommended to be used only in special cases.

These oils will be included in Wärtsilä's list of approved lubricating oils.

The supplying oil company undertakes all responsibility for the performance of the lubricating oils in service to the exclusion of any liability of Wärtsilä Corporation.

The applicant oil company undertakes to inform Wärtsilä Finland Oy, Engine Division of any subsequent changes in the formulation of the lubricating oil brand in question.

Yours faithfully,

Wärtsilä Finland Oy
Engine Division

Kai Juoperi
Head of Fluids Technology

Hannele Viianen
Performance Expert, Fluids