



ISO 8217-2005 NEW ISO SPECIFICATION FOR MARINE FUELS

The new specification standard of Marine Fuel quality for Diesel Engines, ISO 8217-2005, was finalised on November 1st 2005 and released to the public in the CIMAC (International Council on Combustion Engines) meeting on 23rd-24th November.

As suppliers of quality fuels to the Marine industry, Shell Marine Products companies have adopted and implemented with immediate effect this new Quality Standard for the various grades of Fuel delivered to our customers worldwide.

For copyright reasons Shell Marine Products companies cannot circulate directly copies of the new specification, but we refer you to the following ISO web site where copies may be purchased: [Link to ISO website download page](#)

We would like to highlight for you the main differences between the latest ISO 8217-2005 and the previous edition, ISO 8217-1996.

MAIN CHANGES UNDER ISO 8217-2005

1. Fuel Grade Classification and Nomination

Under ISO 8217-2005 the number of residual fuel grades has been reduced from fifteen to ten. With the viscosity classification of residual fuel grades being measured at 50 °C (instead of 100°C as under ISO 8217-1996), the names of the 10 residual fuel grades have been changed as follows under ISO 8217-2005:

ISO 8217-1996	ISO 8217-2005
RMA 10	RMA 30
RMB 10	RMB 30
RMC 10	-
RMD 15	RMD 80
RME 25	RME 180
RMF 25	RMF 180
RMG 35	RMG 380
RMH 35	RMH 380
RMK 35	RMK 380
RMH 45	-
RMK 45	-
RML 45	-
RMH 55	RMH 700
RMK 55	RMK 700
RML 55	-

It should be noted that 500cst fuels (previously RMH, RMK, RML 45 grades) are no longer defined in the new ISO specification. Shell Marine Products companies will continue to supply 500cst fuel that will comply with RMK 700 except for the viscosity, which will be controlled to maximum 500mm²/s at 50°C.

The names of the various Gas Oil and Diesel fuel qualities have not been changed under ISO 8217-2005 (remaining DMX, DMA, DMB, DMC).

2. Reduction of maximum Water content

Under ISO 8217-2005, the maximum water content of all residual fuel grades has been reduced from 1.0%v to 0.5%v.

3. Reduction of Density for the lower viscosity fuel grades

The density of the lower viscosity fuel grades has been lowered as follows:

Grade 8217-1996	Density kg/m ³ @ 15C	Grade 8217-2005	Density kg/m ³ @ 15C
RMA 10	975.0	RMA 30	960.0
RMB 10	981.0	RMB 30	975.0
RMD 15	985.0	RMD 80	980.0

4. Maximum Sulphur content levels of Fuel 1.

The sulphur content levels have been amended to comply with MARPOL 73/78 Annex VI for all the residual fuel grades with viscosity higher than that of RMD 80. For RMA, RMB and RMD grades the previous lower sulphur limits have been retained.

ISO 8217-2005 contains additional information regarding the need for fuels with a maximum content of 1.5% sulphur for use in Sulphur oxides Emission Control Areas (SECAs).

Shell Marine Products has already announced its global policy of supplying fuels in compliance with MARPOL 73/78 Annex VI.

5. Composition of Marine Fuels and Materials that are prohibited

Section 4 of ISO 8217-1996 described the composition of Marine Fuels and materials prohibited for inclusion in Marine Fuels. Under ISO 8217-2005 this information is now contained in Section 5 and the following two important changes should be noted:

Composition of Marine Fuels

“The fuels shall be homogeneous blends of hydrocarbons derived from petroleum refining.”

Materials that are prohibited for inclusion in Marine Fuels

“The fuels shall be free from inorganic acids and from used lubricating oils.”

¹ For more information regarding MARPOL 73/78 Annex VI and maximum sulphur content of fuels in Sulphur oxide Emission Control Areas, please see our previous communications – available upon request from your Shell Marine Products Account Manager:

- “MARPOL 73/78 Annex VI and Shell Marine Products” (May 16th 2005)
- “Marine Fuels Sulphur Legislation” (October 11th 2005)

The use of waste lubricants as a blend component in Marine Fuels is therefore prohibited. Table 2 in Section 5 of ISO 8217–2005 specifies that, if the level of Calcium, Zinc and Phosphorous exceeds the given limits concurrently, the fuel is deemed to contain waste lubricants. Please note that Shell Marine Products companies already exclude used lubricating oils from all grades of Marine Fuels.

6. Informative Annexes

The Informative Annexes in ISO 8217–2005 have been extended to include sections on Test Precision, Sodium and Vanadium, Used Lubricants and Acidity.

Although the Annex regarding Acidity recognises that organic acids can and have caused corrosion, ISO 8217–2005 does not include Acid Number limits in the main tables. Shell Marine Products companies have for many years included a maximum Acid Number limit of 3mgKOH/g for all its fuel deliveries in order to reduce the risks of corrosion in diesel engines.

SUMMARY

Shell Marine Products companies have a clear policy of delivering Fuel Oil quality that complies with the latest ISO 8217 specifications as well as with additional specifications and regulations that may be required by local legislation. Shell Marine Products companies have adopted and implemented with immediate effect the new ISO 8217-2005 Quality Standard for the various grades of Fuel delivered to our customers worldwide.

Shell Marine Products considers the changes adopted in the latest version of the ISO 8217 specification to be of positive benefit to purchasers of Residual Fuels for specific use in Marine engines. There will be negligible impact on the quality of fuels supplied by Shell Marine Products companies, as Shell's own specifications already meet or exceed the newly established ISO 8217-2005 specifications.

Adopting standards and limits for Marine Fuels Quality is one matter; ensuring compliance with them is another. The globally applied Fuel Oil Quality Assurance System (FOQAS) of Shell Marine Products companies ensures maximum compliance with this policy. By prescribing the various quality controls and procedures that need to be fulfilled throughout the whole supply chain, FOQAS is key to ensure that Fuel Oil deliveries by Shell Marine Products companies do not only meet agreed specifications all the time but also satisfy customers' requirements.

Shell Marine Products

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