

# Understand the Key Changes of Newly Released ISO 8217:2024

Technical Newsletter as on 31 May 2024

FAME should meet EN 14214 or ASTM D6751 test methods, and the product should also meet the applicable grade in 'Table 1' of the new ISO 8217:2024. In addition, marine fuel consisting of 100% paraffinic fuel, such as hydrotreated vegetable oil (HVO), the paraffinic diesel should meet EN 15940 test method, and the product should also meet the applicable grade in 'Table 1'.

## Overview of overall key changes of ISO 8217:2024

- The Scope and the general requirements in Clause 5 have been amended.
- Tables 2 and 3 have been added.
- Former Table 2 has been modified and has become Table 4.
- General requirements – clauses 5 to 10 – have been incorporated in Table 1 to Table 4.
- The minimum requirement for KV50 has been added to Table 2, Table 3 and Table 4.
- A fuel shall be considered to be free from organic chlorides (chlorinated hydrocarbons) when the total organic halogen content as chlorine is not exceeding 50 mg/kg when tested in accordance with EN 14077 is added in clause 6.17.
- Clauses 9 (Requirements for marine fuel consisting of 100 % FAME or paraffinic diesel fuel) and (Clause 10) Generally applicable requirements and related test methods have been added.
- Annexes on Cold flow characteristics, Stability of residual fuels and Characterization of residual marine fuels have been added.
- Viscosity-gravity Constant (VGC), calculated using ASTM D2501, is introduced in "Characterization of residual marine fuels" Annex. VGC provides an indication of a fuel tendency to be more paraffinic or aromatic. Values of VGC near 0,80 indicate the fuel of a paraffinic character, while values close to 1,00 indicate a preponderance of aromatic structures.

## Changes of Table 1: Distillate and bio-distillate marine fuels

- The requirement to report the fatty acid methyl ester(s) content (FAME) of DF grades has been changed, allowing up to 100%.
- The distinction between winter and summer quality for cloud point and cold filter plugging point has been removed.
- The requirement to report the net heat of combustion for DF grades has been added.
- A minimum cetane number requirement for DF grades has been added.
- The minimum requirement for oxidation stability for DF grades has been added.
- The requirement to report CP and CFPP for DFB grade has been added.
- Replaced the Sulphur limits to statutory requirement.

## New features of Table 2: Residual marine fuels with sulfur content below or at 0.50 % by mass

- 4 fuel grade categories were introduced - RMA 20-0,5 / RMA 20-0,1; RME 180-0,5 / RME 180-0,1; RMG 380-0,5 / RMG 380-0,1; RMK 500-0,5; RMK 500-0,1.
- RM-0,5 Grade refers to VLSFO – sulfur 0.5% & RM-0,1 Grade refers to ULSFO – sulfur 0.1%.
- Sulphur limit is stated as 0,50% or statutory requirement, whichever is lower.

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- The requirements to report TSE and TSA have been added.
- RMA 20, water content max limit at 0.3%.
- RME180, aluminium plus silicon max limit at 60 mg/kg instead of 50 mg/kg.

### New features of Table 3: Bio-residual marine fuels

- 5 fuel grade categories were introduced – RF 20; RF 80; RF 180; RF 380 and RF 500.
- The requirements to report FAME content and net heat of combustion have been added.
- The requirements to report TSE and TSA have been added.

### Key features of Table 4: Residual marine fuels with sulfur content above 0,50 % by mass (when compared to Table 2 of ISO 8217-2017)

- The number of categories have been reduced to RME 180H; RMG 180H; RMG 380H; RMK 500H & RMK 700H.
- RM-H Grade refers to high sulfur fuel oil.
- RME 180H is a higher quality grade than RMG 180H (lower micro carbon residue, vanadium, sodium, ash, aluminium plus silicon).
- Minimum viscosity of RME/RMG 180H set at 20cSt but note added that fuels with viscosity below 20cSt can be agreed between seller and buyer. It is recommended to check the minimum viscosity requirement with the original equipment manufacturer recommendations.

### Other key highlights

- There are no major changes of the testing scope for MGO, ULSFO, VLSFO and HSFO.
- Table 2 recommends reporting TSA and TSE for both ULSFO and VLSFO, however Clause 6.8.2 highlights that for the fuels listed in Tables 2 and 3, only potential total sediment (TSP) shall be used/applied.
- For Bio-distillate marine fuels, DF grades, additional FAME content, net heat of combustion, oxidation stability, cloud point, cold filter plugging point & cetane number are required to be tested & reported as per Table 1 requirement.
- For Bio-residual marine fuels, RF grade, additional FAME content, net heat of combustion, TSA and TSE are required to be tested & reported as per Table 3 requirement.
- **To ensure efficient, safe and smooth operations, vessels should test the ordered BioFuel against ISO 8217:2024 specification - Table 1 for Bio-distillate marine fuel and Table 3 for Bio-residual marine fuels; and the fuel should conform to the specification before it is used onboard ship.**

CTI-Maritec offers testing packages for ISO 8217:2024 as per Table 1 (Bio-distillate marine fuels) and Table 3 (Bio-residual marine fuel). In addition, CTI-Maritec also offers total organic chloride (as per EN 14077 test method) analysis as part of the new scope for ISO 8217:2024 analysis.

The ISO 8217:2024 specification can be purchased from ISO website via <https://www.iso.org/standard/80579.html> .

For more information on BioFuel testing services and more, please visit our website at [https://www.maritec.com.sg/services/Fuel\\_Testing&Solution](https://www.maritec.com.sg/services/Fuel_Testing&Solution) or write to us at [admin.maritec.com.sg](mailto:admin.maritec.com.sg).

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**CTI-Maritec's provides gold-standard BioFuel Testing Services & Solutions including cost effective routine and enhanced testing solutions to help safeguard your vessels. Benefit from:**

- **Accredited Labs, Equipment and Testing Procedures:** CTI-Maritec is certified by SAC SINGLASS for BioFuel testing.
- **Latest Equipment & Technology:** CTI-Maritec uses the latest technology to ensure best-in-class testing.
- **Unmatched Experience:** CTI-Maritec has been offering a full range of biodiesel blends testing since early 2022 ranging from B20 to B100.
- **Enhanced Analysis:** In addition to routine testing, CTI-Maritec offers intuitively designed customizable packages to deep dive into investigating the root cause of any abnormal findings.
- **Technical Support:** CTI-Maritec provides focused technical support through our team of highly qualified experts who deliver personalized guidance to our customers whenever required.
- **Long Standing Systems & Infrastructure:** CTI-Maritec has been a trusted Fuel Testing partner since 1999 and possesses the expertise, set-up and procedures to provide 24x7 quick, efficient and credible services.
- **Dedicated Customer Support:** CTI-Maritec's dedicated Customer Service Executives are always on-hand to provide speedy assistance on a real-time basis.

In keeping with our commitment to providing world-class services, we conduct BioFuel analysis for routine and enhanced testing using the latest technology and equipment, as seen below:



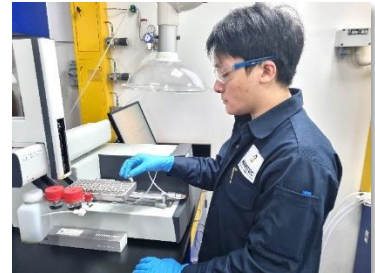
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