

# **TEST KIT COMPA DENS**

For testing the density, compatibilility and stability of oil upon delivery.

## **FEATURES & BENEFITS**

- Quick and adjustable heating
- Accurate and reliable analyses
- Four variable hydrometers with automatically converted density value from 50 °C to 15 °C
- Directly observable compatibility/incompatibility test results
- Easy to handle even for untrained personnel

#### APPLICATIONS

Testing of the density of the delivered oil provides reassurance about the conformity of oil quality and its cost. The verification of stability/compatibility of different marine heavy fuel oils (high sulphur and low sulphur fuel oils) and marine gas oils (MGO) is regarded as an essential measure for ensuring continuous normal operation of the engine system. Due to incompatibility sludge formation can occur, and the normal engine operation can be put at risk. Consequently, the relevant compatibility/stability test analysis provides clear evidence whether the oil samples can be mixed or not.

With the TEST KIT COMPA DENS the density, stability and compatibility can be determined in easy and quick test procedures.

#### PARAMETERS TO MEASURE

Density:

- Measuring range: 0.82 1.05 g/ml
- Measuring time: about 2 min.
- Oil sample: 120 ml
- Accuracy: ± 3%

Stability/compatibility:

- Measuring range: all heavy fuels + MGO
- Measuring time: about 20 min.
- Oil sample: 100 ml (stability) / 2 x 50 ml (compatibility)
- Accuracy: go / no go

Density of the relevant oil sample is measured in a quick and simple test procedure. The glass tube filled with oil is placed in the heating bath and is heated up to 50°C. Once the temperature is stable, the oil density can be assessed by employing the appropriate hydrometer. The obtained density value is automatically converted to standard temperature of 15°C. When the exact density of the oil sample is determined, the actual weight of the bunker fuel can be calculated.



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As the bunker fuel oil delivered on board contains a mixture of different fuel blends, it is necessary to check it for stability. It is important to identify whether or not asphaltene precipitations will occur because of the low aromaticity or solvent capacity of the fuel.

The following simple test method is developed to assess the compatibility/stability of different bunker fuels before mixing them in the same tank. Two samples are mixed together and heated up to 95°C in the heating bath. One drop of this heated mixture is applied on chromatographic SPOT TEST paper. As soon as the formed spot dries out, the end result can be directly analysed:



Homogeneous - no inner ring  $\rightarrow$  The oil samples are compatible and stable (no sludge detected)



Specified inner ring



Dark inner ring

 $\rightarrow$  Incompatible parts are determined and sludge formations occur

→ The oil samples are incompatible/instable as the high amount of sludge is observable

This test method applied by TEST KIT COMPA DENS follows ASTM D 4740-04 (2014).

### STANDARD PACKING

The TEST KIT COMPA DENS is provided in a sturdy briefcase of 41 x 23 x 35 cm.

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