**TITAN PSW 40**

**Marine and stationary engine oil according to API CF**

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| **Description**  TITAN PSW 40 is a high quality, alkaline dual purpose API CF level lubricating oil specially formulated to meet the requirements of medium speed trunk piston diesel engines operating on heavy residual fuel with sulfur level up to 2%. TITAN PSW 40 provides the necessary extra alkalinity to effectively neutralize acidic products of combustion when operating on heavy residual fuels or crude oil and to give a high level of detergency to keep pistons and piston rings of deposits.  **Application**  TITAN PSW 40is blended with latest technology additive packages developed especially for use with engines burning heavy residual fuels and crude oil. The additive system has been extensively tested in Wartsila, MWM Deutz and MAN B&W engines. TITAN PSW 40 SAE 40 have undergone extensive field trials on Wartsila engines and based on the results of engine inspection, Wartsila Engine division approves the use of these products in engines operating on Wartsila fuel standards ISO-F-DMC, IISO-F-RMA 30-RMK 700 and CRO. In the engines types Wartsila Vasa 22 / 22/26 and Wartsila Vasa 32 / 32LN, the suitability of SAE 40 grade depends on the capacity of the lubricating oil cooler used in the installation. In the engine types Wartsila Vasa 32, Wartsila 20, 26, 32, 38, 46, 64 the use of TBN 55-55 lubricants in heavy fuel installations is recommended especially if fuel sulfur content in above 2.0% mass. TBN 40 lubricants can be used as | well in the experience shows the retention of TBN to be of acceptable level.  **Advantages/Benefits**   * The use of TITAN PSW 40 will ensure engine cleanliness, resulting in longer periods between overhauls. * TITAN PSW 40 is fully inhibited for protection against bearing corrosion * TITAN PSW 40 has a high level of oxidation resistance to prevent premature ageing and to give longer oil life * TITAN PSW 40 offers optimum alkalinity to neutralize acidic by-products of combustion.   **Specifications/Approvals**   * API CF * Wartsila (PSW 40 SAE 40) * MWM Deutz (PSW 40 SAE 40) * SKL Motor (PSW 40 SAE 40) |

**CHARACTERISTICS**

**TITAN PSW 40**

**Properties Unit Value Test Method**

SAE Grade 40 DIN 51 511

Density @ 15 oC g/ml 0.915 ASTM D 4052

Flash Point, COC oC 250 ASTM D 92

Pour Point oC -12 ASTM D 97

Kinematic Viscosity @ 40 oC mm2/s 157 ASTM D 445

Kinematic Viscosity @ 100 oC mm2/s 15.3 ASTM D 445

Viscosity Index - 98 ASTM D 2270

TBN mg KOH/g 40 ASTM D 2896

Sulphated Ash % wt 4.9 ASTM D 874