



PRODUCT DATA SHEET

DAVID WEBER OIL CO.

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GIBRALTAR SUPER S-3 MOTOR OIL

Gibraltar Super S-3 engine oil is designed for use in diesel-powered and 4-cycle gasoline-powered vehicles - both over-the-road and off-highway types. This encompasses a very wide range of automotive equipment - large machinery, trucks of all sizes, and even passenger cars. Since it is one oil that satisfies the requirements of all these vehicles, Super S-3 is an excellent choice for mixed fleets.

Because of this versatility, **Gibraltar Super S-3** can eliminate the need for stocking several different engine oils. This reduction in inventory should help reduce costs. With only one engine oil in inventory, the risk of getting the wrong oil into an engine is minimal.

DIESEL-POWERED EQUIPMENT

Gibraltar Super S-3 is fully qualified for use wherever API CF, CE CD, and CC oils are specified. Super S-3 meets the superseded Series 3 specifications of the Caterpillar Tractor Company. It also meets Mack Truck EO-K/2 and EO-J specifications for extended service intervals.

GASOLINE-POWERED EQUIPMENT

Gibraltar Super S-3 is fully qualified for use wherever API SE, SF, SG, SH or SJ oils are recommended. It meets the requirements of International- Harvester for gasoline engines used in trucks, construction equipment and agricultural machinery.

Super S-3 meets the engine performance requirements of the current military specifications MIL-L-46152E and MIL-L-2104E, in addition, Super S-3 meets or exceeds the requirements of the following superseded military specifications: MIL-L-2104A, supplement 1; MIL-L-2104B and MIL-L-45199B.

SPECIAL APPLICATIONS

All grades of **Gibraltar Super S-3** engine oil are fully approved TO-2 Power-Shift Fluids for use in Caterpillar equipment. Grades 10W and 30 are approved Allison C-4 Torque Fluids meeting the specifications of Detroit Diesel Allison Division of General Motors. The SAE 10W is recommended for use in hydraulic systems on Caterpillar and Komatsu equipment. It is also recommended for heavy duty on-highway transmission applications such as Eaton Fuller, Meritor and Dana Spicer where the application or extended warranty does not require the use of a synthetic oil.

PERFORMANCE

Gibraltar Super S-3 engine oil is a blend of highly refined petroleum base oils and selected additives, and is especially formulated to save fuel in diesel trucks and provide excellent performance in all recommended applications. It has the oxidation stability necessary to withstand high crankcase oil temperature encountered in over-the-road and other severe operating conditions.

Super S-3 is inhibited to minimize foaming and prevent rusting. It is also fortified with effective anti-wear additives to protect heavily loaded engine parts.

Super S-3 contains potent detergent-dispersant additives. These prevent sludge formation, which can lead to plugged oil filter screens, stuck valve lifters, stuck rings, and many other problems.

Because Super S-3 contains a high concentration of detergent dispersant additives, it can dislodge existing engine deposits that may have been produced by lower quality motor oils. For this reason, caution must be taken to monitor filters closely when upgrading to Super S-3.

In addition to these quality features, Super S-3 possesses good flow properties at low temperatures. Even in cold weather, Super S-3 is readily pumped to engine parts requiring lubrication. This property is important in starting turbo-charged engines where oil pressure must build up rapidly to prevent damage to the turbo-charger.

PERFORMANCE LEVELS

MIL-L-2104E
MIL-L-46152E
API SERVICES CF,CE,CD,CC,SJ,SH,SG
MACK EO-K/2
CUMMINS NTC 400
CATERPILLAR POWER SHIFT TRANSMISSION TO-2
ALLISON C-4
EATON FULLER
MERITOR
DANA SPICER

TYPICAL INSPECTIONS

| | |
|------------------------|-------|
| Sulfated Ash, % Weight | 0.98 |
| TBN, ASTM D-2896 | 9.6 |
| Calcium, % Weight | 0.121 |
| Magnesium, % Weight | 0.083 |
| Zinc, % Weight | 0.127 |
| Phosphorus, % Weight | 0.114 |
| Molybdenum | .0045 |

VISCOSITY ANALYSIS

| VISCOSITY GRADE | 10 | 20 | 30 | 40 | 50 |
|-----------------|-------|-------|-------|-------|-------|
| SG @15.6 C | .8835 | .8826 | .8926 | .8933 | .8952 |
| cSt @ 40C | 37.1 | 54.6 | 98.4 | 137.1 | 175.2 |
| cSt @ 100 C | 6.5 | 8.2 | 12.0 | 14.7 | 17.42 |
| VI (e) | 129 | 119 | 112 | 107 | 107 |
| cP @ -5 C | 626 | 1058 | 2342 | 3952 | 5544 |
| cP @ -10 C | 997 | 1702 | 4016 | 6994 | 9932 |
| cP @ -15 C | 1633 | 2644 | 7119 | 12829 | 18446 |
| cP @ -20 C | 2886 | 4099 | 13700 | 25596 | 37261 |
| cP @ -25 C | 5370 | 8105 | 27890 | 54274 | 80013 |