



Technical Data Sheet

QUAKER STATE® DEFY™ SYNTHETIC BLEND MOTOR OIL

STOPS UP TO 98% OF FUTURE WEAR*

DESCRIPTION

Just because a car is a little older, doesn't mean you depend on it any less to keep life moving. That's the idea behind QUAKER STATE® DEFY™ synthetic blend motor oil, it helps higher mileage engines defy time. Quaker State® Defy™ is formulated with extra anti-wear additive to help protect against the wear stresses your high mileage engine experiences in everyday driving and help extend the life of your engine.

Quaker State® Defy™ helps stop engine wear in its tracks, preventing up to 98% of future wear* in laboratory tests with real engines. Quaker State's proprietary additive package is an outstanding wear fighter in engines.

How? Zinc is an outstanding wear fighter in engines. And with Quaker State® Defy™ synthetic blend motor oil, the boosted zinc anti-wear agents target high temperature and high-wear surfaces where they are needed most, while still being friendly to catalytic converters and other emission control equipment.

The additional 50%** low volatility zinc found in Quaker State® Defy™ is great for engine enthusiast who owns muscle cars with high compression hot rod engines, utilizing high profile camshaft(s) with solid lifter and flat tappet lifters. Unlike other high zinc break in oils that are use temporally during break in, Quaker State® Defy™ is a great break in oil that is formulated to last an entire drain cycle.

*Based on Sequence IVA wear test.

**50% additional low volatility zinc in 10W-40 API SN, other viscosity grades contain 25% more zinc.

FEATURES

QUAKER STATE® DEFY™ SYNTHETIC BLEND MOTOR OIL is formulated with extra anti-wear additive to help reduce wear on worn engine parts. Seal conditioners to help reduce oil leakage and a higher viscosity to help improve engine sealing, to increase compression and reduce blow-by.

BENEFITS

These formulas provide excellent:

- **Protection against wear.**
Stop up to 98% of future wear*
- **Resistance to oil leakage.**
Active seal conditioning agents helps prevent leaks and reduce oil loss.
- **Protection against acid corrosion.**



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Provides active base to neutralize combustion acids that can corrode your engine.

- **Restores Performance.**

Thicker viscosity to help improve combustion chamber sealing to restore compression and reduce blowby.

*Based on the Industry Sequence IVA test and 5W-30 viscosity grade.

HEALTH & SAFETY

Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from your Shell Lubricants representative.

PROTECT THE ENVIRONMENT

Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES QUAKER STATE® DEFY™ SYNTHETIC BLEND MOTOR OIL FOR HIGH MILEAGE ENGINES

| TEST | METHOD | TYPICAL RESULTS | | | |
|-------------------------------|--------------------|-----------------|--------------|---------------|---------------|
| SAE Grade | J300 | 5W-20 | 5W-30 | 10W-30 | 10W-40 |
| Gravity, °API | ASTM D-287 | 33.16 | 33.6 | 31.19 | 31.06 |
| API Category | | SL | SL | SL | SN |
| Viscosity | | | | | |
| @ 40 °C, cSt | ASTM D-445 | 50.81 | 68.02 | 80.51 | 104.4 |
| @ 100 °C, cSt | ASTM D-445 | 8.8 | 11.5 | 11.9 | 15.3 |
| Viscosity Index | ASTM D-2270 | 152 | 163 | 146 | 156 |
| Flash Point, °C | ASTM D-93 | 229 | 218 | 210 | 200 |
| Pour Point, °C | ASTM D-97 | -36 | -30 | -30 | -33 |
| CCS Viscosity, cP (°C) | ASTM D-5293 | 5600 (-30) | 6,100 (-30) | 6400 (-25) | 6200 (-25) |
| MRV viscosity, cP (°C) | ASTM D-4684 | 17800 (-35) | 28000 (-35) | 22300 (-30) | 25600 (-30) |
| HT/HS viscosity, cP | ASTM D-4683 | 2.67 | 3.215 | 3.36 | 3.7 |
| Noack volatility, % | ASTM D-5800 | 13 | 12.5 | 12.7 | 13 |

These characteristics are typical. While future production will conform to Quaker State® specifications, variations in these characteristics may occur. The information contained herein is subject to change without notification.