Petroleum products

Engine oil

SAE viscosity and API service category

SAE 20W-40 · API SG/CD



Material illustration

Technical characteristics

Engine oil, SAE 20W-40 · API SG/CD. SAE identifies the viscosity class and API identifies the engine service category.

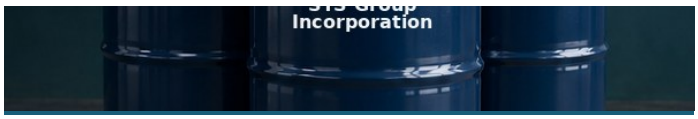
Property	Reference value	Method or source
Viscosity at 100 °C	**12.5 ≤ ν < 16.3 mm²/s**	SAE J300
Service category	**API SG/CD**	API
Cold cranking (CCS)	**≤ 9500 mPa·s / −15 °C**	SAE J300
Low-temperature pumping (MRV)	**≤ 60 000 mPa·s / −20 °C**	SAE J300
HTHS · 150 °C	**≥ 3.7 mPa·s**	SAE J300
Kinematic viscosity	**ASTM D445**	ASTM D445

Under SAE J300 the kinematic viscosity band at 100 °C is 12.5 ≤ ν < 16.3 mm²/s. ASTM D445 measures this property. High-temperature, high-shear viscosity (HTHS) is a separate measurement. The 20W designation covers low-temperature cranking and pumpability tests.



Applications

For petrol engines whose service manual specifies SAE 20W-40 and API SG/CD. Mixed fleets also need to account for engine type and cold-start conditions. This service category was developed for earlier engine generations. Modern equipment requires the level in its own manual.



Packaging and receipt

Packs suit individual service jobs and drums suit workshops with pump dispensing. IBCs or bulk delivery can be agreed for central stores. Each container is identified by fluid and lot.

For acceptance, check the agreed specification and the certificate of analysis (COA) for the delivered lot.