## 2.0 Engine oil grades / viscosity grades

BMW specifies different grades of engine oil, depending on the engine and vehicle model. Specifications or descriptions other than those given here, for example "high lubricity oil, fully synthetic" etc. bear no relevance to their suitability for use in engines of the BMW Group.

**Longlife-04 oils**

These have been developed to guarantee an optimum service life for the particulate filter in diesel engines. These oils are stipulated for all diesel engines with particulate filter, but may also be used in almost all other BMW engines. Like Longlife-01 and Longlife-01 FE oils, they satisfy currently BMW's most stringent quality requirements. Longlife-04 oils must not be used in BMW spark-ignition engines in countries outside Europe (EU plus Switzerland, Norway and Liechtenstein).

**Longlife-01 oils**

The quality of these oils is comparable to that of Longlife-04 and Longlife-01 FE oils and these oils can be used in most BMW engines.

**Longlife-01 FE oils**

Because of their particularly low viscosity, these oils are able to favourably influence fuel consumption. However, they are only to be used in engines that have been specially designed to run with such low-viscosity oils (spark-ignition engines with Valvetronic).

**Longlife-98 oils**

Satisfy specific requirements for extended oil change intervals that were introduced in 1998. Their quality is no longer adequate for the current range of spark-ignition and diesel engines.

**Special oils:**

With one exception, these are no longer listed, but may still be used for vehicles with oil change interval up to 15,000 km.

**ACEA specifications**

For older vehicles, oils may still be used that are not expressly listed but which satisfy the following specifications:

Spark-ignition engines: A2/B2, A3/B3 or A3/B4

Diesel engines: A3/B3 or A3/B4

Information concerning oils for initial running or running in:
No special running-in oils are used in BMW engines. For this reason, the oil specifications given also apply to filling or topping up oil in new, reconditioned or exchange engines before the 1st oil service.

**Viscosity grades**

Viscosity measures the oil's ability to flow. It is highly dependent on the temperature of the oil, i.e. the higher the temperature, the lower the viscosity. Likewise, the oil temperature is dependent on various factors, for example on the ambient temperature in which the vehicle is operated.

When the outside temperature is low, the oil must not be too viscous, so as to ensure that all the lubrication points are supplied quickly with oil when the engine is cold. When oil or engine temperatures are high, the oil must possess a certain minimum viscosity, so that an adequately thick lubricating film is built up.

Modern multigrade oils combine good low-temperature characteristics with adequate lubrication at high oil temperatures, preventing the need for a suitable viscosity grade to be selected and oil to be changed purely on a seasonal basis.

If engine oils complying with Enclosure 3 are used, the following rules apply for the selection of a suitable viscosity grade:

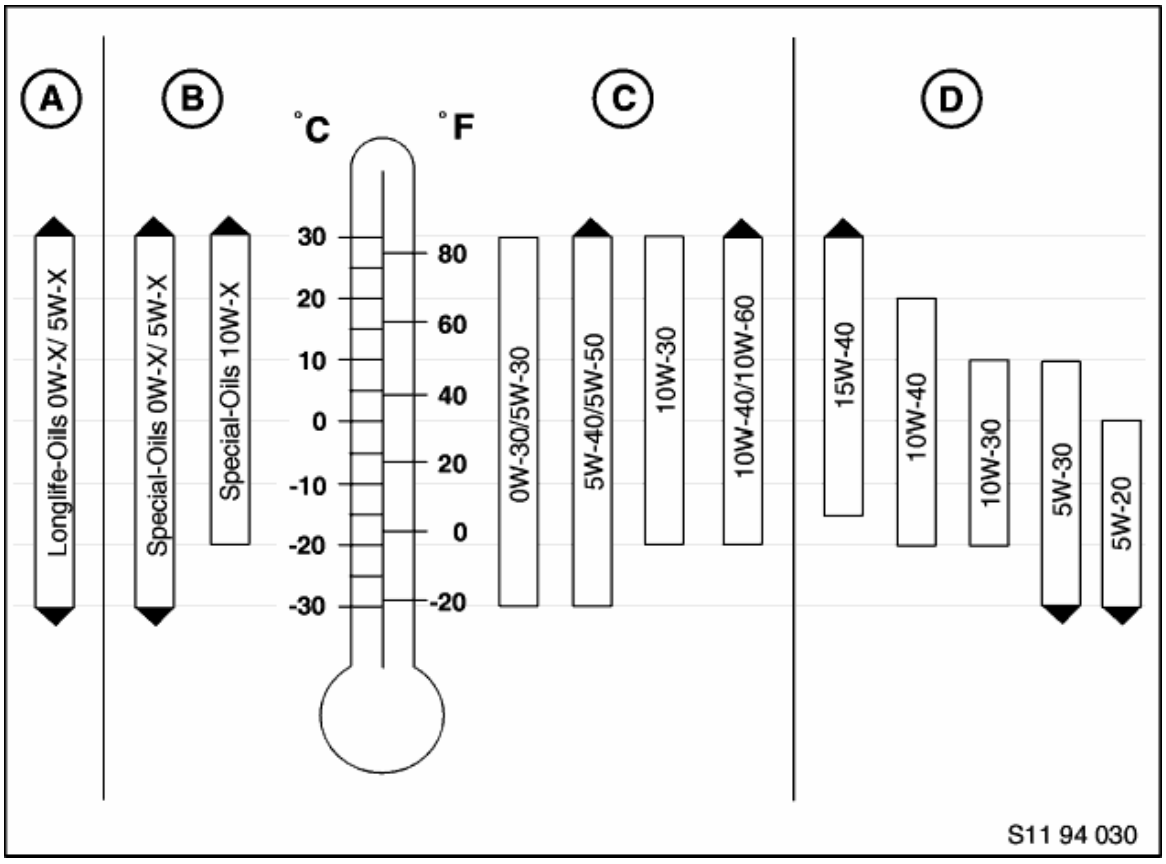
BMW longlife oils:

BMW longlife oils, as specified for all BMW vehicles since 1998, are tested by BMW to ensure that they can be used anywhere in the world, at any time of year, regardless of ambient temperature. If BMW longlife oils are used, it is therefore not necessary to keep a check on the viscosity grade. The exception is the M47TÜ2: for SAE 5W-X oils there is a lower temperature limit of -20°C. Cold-starting difficulties may occur at lower temperatures. In countries where outside temperatures frequently fall below -20°C, we therefore recommend 0W instead of 5W products. BMW Longlife oils are only available in the viscosity grades SAE 0W-30, SAE 0W-40, SAE 5W-30 and SAE 5W-40.

BMW special oils:
SAE 0W-X and SAE 5W-X oils (X can mean 30, 40, 50 or 60) can be used all year round anywhere in the world any ambient temperature. For SAE 10W-X oils there is a lower temperature limit of -20°C. Cold-starting difficulties may occur at lower temperatures.

ACEA specification:
The most suitable viscosity grade should be selected using the viscosity/temperature diagram. Here again, making the right choice will avoid the need for purely seasonal oil changes (e.g. SAE 15W-40 for Central Europe). The temperature limits shown in the diagram may be exceeded for a short time. If the upper temperature limit is exceeded, high engine speeds and loads over a prolonged period should be avoided. If the lower temperature limit is exceeded, difficulties may be experienced in starting a cold engine.

**Viscosity grades**




A = Longlife oil (as per Enclosures 4, 5, 6)

B = Special oils (as per Enclosure 8)

C = ACEA specifications for diesel engines (as per Enclosure 11)

D = ACEA specifications for spark-ignition engines (as per Enclosure 11)

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