

# API CJ-4 / Shear Stability

ASTM D 7109

## SPECIFICATIONS

This test is approved for API CJ-4.

## SIGNIFICANCE AND USE

This test method covers the evaluation of the shear stability of polymer-containing fluids. The test method measures the percent viscosity loss at 100°C of polymer-containing fluids when evaluated by a diesel injector apparatus procedure that uses European diesel injector test equipment. The viscosity loss reflects polymer degradation due to shear at the nozzle.

## APPARATUS

The apparatus consists of a fluid reservoir, a double-plunger pump with an electric motor drive, an atomization chamber with a diesel injector spray nozzle, and a fluid-cooling vessel, installed in an area with an ambient temperature of 20 to 25°C (68 to 77°F).



## TEST METHOD / SUMMARY

This test method evaluates the percent viscosity loss for polymer-containing fluids resulting from polymer degradation in the high shear nozzle device. Thermal or oxidative effects are minimized. This test method is used for quality control purposes by manufacturers of polymeric lubricant additives and their customers.

A polymer-containing fluid is passed through a diesel injector nozzle at a shear rate that causes polymer molecules to degrade. The resultant degradation reduces the kinematic viscosity of the mechanical shear stability of the polymer-containing fluid.

## PASS / FAIL CRITERIA

KV @ 100C after 90 passes for XW-40, min	12.5 cSt
KV @ 100C after 90 passes for XW-30, min	9.3 cSt



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