



STAR TRANS 80W-110



Very high performance lubricant especially developed for the lubrication of materials used in public works, minings or quarries.

PERFORMANCE LEVELS

API GL-5/GL-4	CAT FD-1	CAT TO-4
<p>Its "Extreme-Pression" reinforced properties (API GL-5) give it excellent fatigue and wear resistances, especially for gears under load, shocks and high temperatures.</p> <p>Its modified base oils provide better temperature resistance than mineral ones.</p> <p>Meet the main requirements of the final drive specification :</p> <ul style="list-style-type: none"> ✓ CATERPILLAR FD-1 (SAE 50) <p>TOTAL STAR TRANS 80W-110 has succeed the official tests of wet brake frictions according to :</p> <ul style="list-style-type: none"> ✓ CATERPILLAR TO-4 (SAE 50) ✓ KOMATSU Micro Clutch <p>Its friction characteristics are also adapted for use in axles equipped with limited slip self-locking disc differentials (LIEBHEER, JCB, TEREX...) contact our technical services.</p>		

APPLICATIONS

TOTAL STAR TRANS 80W-110 makes it possible to lubricate front or back strongly hypoid axles and loaded final reductions.

TOTAL STAR TRANS 80W-110 is usable in limited slip self-locking disc differentials.

TOTAL STAR TRANS 80W-110 permits also the cooling and the good work without vibrations of oil immersed brake systems.

TOTAL STAR TRANS 80W-110 can also be used in all types of gearboxes, with mechanical or synchronized shifting

TOTAL STAR TRANS 80W-110 is used all year round, due to its high viscosity index:

- Very fluid at cold temperature permits a use of the final drive line, without power losses and with a break capacity immediately available and efficient.
- Thick at high temperature, keeps an optimal and securized lubrication of loaded organs.

In certain application cases, TOTAL STAR TRANS 80W-110 must be used in conjunction with the so-called "STAR XL" additive (Refer to the Technical Data Sheet)

PERFORMANCES AND CUSTOMER BENEFITS

- Allows to strongly decrease the lubricant number needed for the whole vehicle park maintenance.
- Reaches the performance levels required by the machinery OEMs for the severe earth-moving applications.
- Erases all mistake possibilities of lubricant application, with security.

PHYSICAL AND CHEMICAL CHARACTERISTICS*

TOTAL STAR TRANS 80W-110		Method	Value
Kinematic Viscosity at 40°C	mm ² /s	ASTM D445	182
Kinematic Viscosity at 100°C	mm ² /s	ASTM D445	18.6
Viscosity Index	-	ASTM D2270	115
Pour Point	°C	ASTM D97	-33
Phosphorous minimum value	ppm		2000

* The features mentioned above are average values obtained with some variability in production and do not constitute a specification.

TOTAL LUBRIFIANTS
 562, avenue du Parc de l'Île
 92029 Nanterre cedex
 FRANCE

TOTAL STAR TRANS 80W-110
 Update 12/2014
www.lubricants.total.com



This lubricant does not cause adverse health effects when used in the intended application.
 A safety datasheet is accessible on request from your local dealer or on the website www.quickfds.com