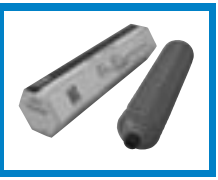
THK Original Grease

AFJ Grease

●Base oil: refined mineral oil
●Consistency enhancer: urea-based



AFJ grease uses refined mineral oil as its base and a urea-based grease as its consistency enhancer, while also featuring other special additives. This gives it excellent lubrication properties at a wide range of speeds—from low to high.

[Features]

(1) Wide range of speeds
It provides consistent and even lubrication at a wide range of speeds, from low to high.
(2) Wear resistance
Even at low speeds, it has excellent oil film formation to reduce wear.
(3) Vibration resistance
It reduces wear caused by machine vibration during high-speed operation.

[Representative Physical Properties]

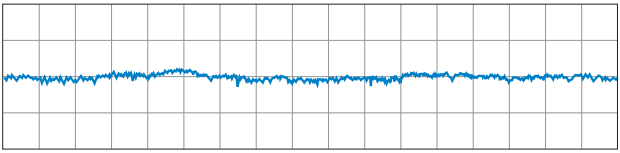
Item		Representative value	Test method
Consistency enhancer		Urea-based	
Base oil		Refined mineral oil	
Base oil kinematic viscosity: mm²/s (40℃)		20	JIS K 2220 23
Worked penetration (25℃, 60 W)		325	JIS K 2220 7
Mixing stability (100,000 W)		360	JIS K 2220 15
Dropping point: ℃		185	JIS K 2220 8
Evaporation amount: mass% (99℃, 22 h)		0.6	JIS K 2220 10
Oil separation rate: mass% (100℃, 24 h)		7.0	JIS K 2220 11
Copper plate corrosion (B method, 100℃, 24 h)		Accepted	JIS K 2220 9
Low-temperature torque: mN·m (–20℃)	Starting	38	JIS K 2220 18
	Rotational	13	
4-ball testing (welding load): N		3089	ASTM D2596
Service temperature range: ℃		–20 to 120	
Color		Yellowish brown	

[Wear Resistance Test Data (LM Guide Block)]

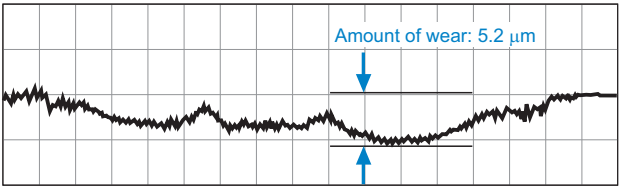
Test conditions

Item	Description
Tested model	NRS55B2SS+780LP
Applied load	5.9 kN
Feeding speed	0.1 m/min
Stroke	200 mm
Grease quantity	12 cm^3 (initial lubrication only)
Test duration	480 h

AFJ Grease



Other urea-based grease

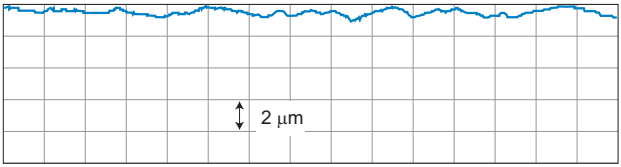


[Vibration Resistance Test Data (LM Guide Rail)]

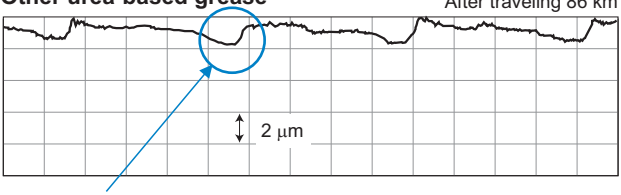
Test conditions

Item	Description
Tested model	SHS25R1UU+580LP
Applied load	11.05 kN (0.35C)
Feeding speed	60 m/min
Acceleration/ deceleration	9.8 m/s^2
Stroke	350 mm
Grease quantity	2 cm^3 (initial lubrication only)

AFJ Grease After traveling 434 km



Other urea-based grease After traveling 86 km



"Wear mechanism"

High-speed movement and rapid acceleration/ deceleration → Mechanical vibrations occur → Raceways wear down

[LM Guide Rolling Resistance Measurement Data]

Test conditions

Item	Description
Tested model	SHS25R1UU+3000L
Applied load	No load
Acceleration	29.4 m/s^2 (3G)
Stroke	2300 mm
Test temperature	21℃
Grease quantity	2 cm^3 (initial lubrication only)
Measurement speed	0.5, 1, 2, 3, 4, 5, 6 m/s