

## THK Original Grease

# AFJ Grease

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



The THK AFJ grease uses refined mineral oil as its base and contains urea-based consistency enhancer and other special additives that give excellent lubrication properties at a wide range of speeds, from low to high.

### [Features]

- (1) Wide range of speeds  
Provides consistent and even lubrication at both high and low work speeds.
- (2) Wear Resistance  
Even at low speeds, it has excellent oil film formation characteristics to reduce wear.
- (3) Resistant to vibration  
Reduces wear caused by machine vibration during high-speed operation.
- (4) Low rolling resistance  
Reduces rolling resistance in LM guides and ball screws over a wide range of speeds.

### [Representative Physical Properties]

Item	Representative value	Test method
Consistency enhancer	Urea-based	
Base oil	refined mineral oil	
Base oil kinematic viscosity: mm <sup>2</sup> /s (40°C)	20	JIS K 2220 23
Worked penetration (25°C, 60W)	325	JIS K 2220 7
Mixing stability (100,000 W)	360	JIS K 2220 15
Dropping point °C	185	JIS K 2220 8
Evaporation amount: mass% (99°C, 22h)	0.6	JIS K 2220 10
Oil separation rate: mass% (100°C, 24h)	7.0	JIS K 2220 11
Copper plate corrosion (B method, 100°C, 24h)	Accepted	JIS K 2220 9
Low temperature torque: N·m (-20°C)	Start	380
	(revolutions)	130
4-ball testing (burn-in load): N	3089	ASTM D2596
Service Temperature Range °C	-20 to 120	
Color	Yellowish brown	

### [Test data for LM guide block wear resistance]

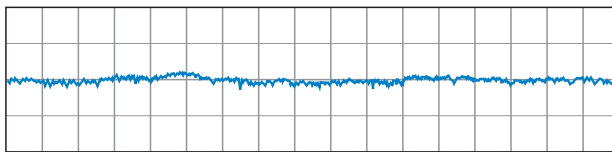
#### ● AFJ grease test data (comparing the amount of wear)

The test data in the figure compares the test results for the amount of wear for this product and other greases.

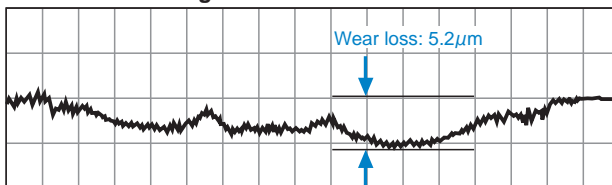
<Test conditions>

Item	Description
Model No.	NRS55B2SS+780LP
Applied load	5.9kN
Feeding speed	0.1m/min
Stroke	200mm
Grease quantity	12cm/ LM block (initial lubrication only)
Test duration	480 hours

#### THK AFJ Grease



#### Other urea-based grease



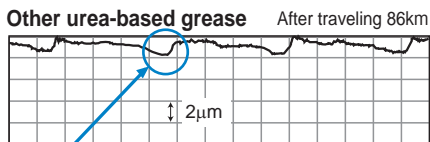
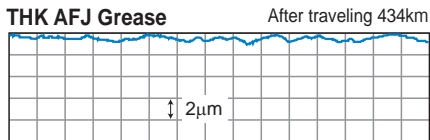
### [Test data for LM guide rail vibration resistance]

#### ● AFJ grease test data (comparing the amount of vibration)

The test data in the figure compares the test results for the amount of vibration for this product and other greases.

<Test conditions>

Item	Description
Model No.	SHS25R1UU+580LP
Applied load	11.05 kN (0.35C)
Feeding speed	60 m/min
Acceleration/deceleration	9.8 m/s <sup>2</sup>
Stroke	350mm
Grease quantity	2 cm <sup>3</sup> /block



### "Wear Occurrence Mechanisms"

Patterns of high-speed and high acceleration/deceleration operation

Occurrence of machine vibration

Occurrence of wear in roll grooves

### [Measurement data for LM guide rolling resistance]

#### ● AFJ grease test data (rolling resistance comparison)

The test data in the figure compares the results of rolling resistance testing on this product and other greases.

<Test conditions>

Item	Description
Model No.	SHS25R1UU+3000L
Applied load	No load
Acceleration	29.4 m/s <sup>2</sup> (3G)
Stroke	2300mm
Test temperature	21 °C
Grease quantity	2 cm <sup>3</sup> /block
Measurement speed	0.5, 1, 2, 3, 4, 5, 6 m/s

#### LM guide speeds and rolling resistance

