

# THK原創潤滑脂 AFA潤滑脂

- 基礎油:高級合成油
- 增稠劑:尿素基



AFA潤滑脂是以高級合成油作為基礎油,藉由使用尿素基增稠劑,使其擁有優異的低阻力性、耐水性,是使用壽命長的高級潤滑脂。

## 【特徵】

### (1) 低阻力

由於基礎油運動黏度較低,因此最適合於LM導軌等產品在長行程且高速時使用。

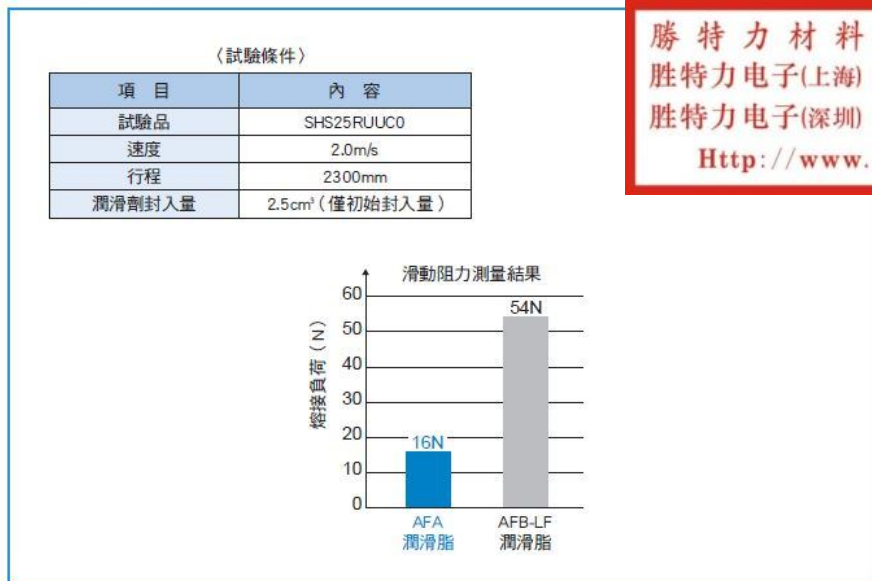
### (2) 耐水性

具優異耐水性,是不易受到水分流入影響的潤滑脂。

## 【代表性物理特徵】

項目	代表性物理特徵值	試驗方法
增稠劑	尿素類	
基礎油	高級合成油	
基礎油運動黏度: mm <sup>2</sup> /s (40°C)	25	JIS K 2220 23
針入度 (25°C, 60W)	285	JIS K 2220 7
混和穩定性 (10萬W)	329	JIS K 2220 15
滴點: °C	261	JIS K 2220 8
蒸發量: mass% (99°C, 22h)	0.2	JIS K 2220 10
離油度: mass% (100°C, 24h)	0.5	JIS K 2220 11
銅板腐蝕 (B法, 100°C, 24h)	合格	JIS K 2220 9
低溫扭矩: mN·m (-20°C)	起動	170
	運轉	70
4滾珠試驗 (熔接負荷): N	3089	ASTM D2596
使用溫度範圍: °C	-45~160	
外觀顏色	褐色	

## 【滑動阻力比較】



**勝特力材料 886-3-5753170**  
**勝特力电子(上海) 86-21-34970699**  
**勝特力电子(深圳) 86-755-83298787**  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## 【滾珠螺桿潤滑脂的旋轉扭矩試驗】

(試驗方法)

在KR4620A+640L的導軌塗抹1cm<sup>3</sup>的潤滑脂,在滾珠螺桿部塗抹2cm<sup>3</sup>的潤滑脂(僅初始封入),然後測量在各馬達轉速下的扭矩。

以驅動扭矩顯示器上的輸出值測量扭矩。

電動驅動器的轉動扭矩試驗

單位: N·cm

使用的潤滑脂	運動黏度的中心值 mm <sup>2</sup> /s (cSt) (40°C)	運動黏度範圍 mm <sup>2</sup> /s (cSt) (40°C)	轉速			
			100min <sup>-1</sup>	1000min <sup>-1</sup>	2000min <sup>-1</sup>	4000min <sup>-1</sup>
AFA潤滑脂	25	22.5~27.5	11.3	11.3	12.3	14.6
潤滑油 VG32	32	28.8~35.2	11.2	10.8	13.4	14.7

# THK Original Grease AFA Grease

- Base oil: high-grade synthetic oil
- Consistency enhancer: urea-based



AFA Grease is a high-grade grease that possesses a long service life, excellent water resistance, and low sliding resistance through the use of high-grade synthetic oil as the base oil and a urea-based consistency enhancer.

## [Features]

### (1) Low sliding resistance

As the kinematic viscosity of the base oil is low, it is ideal for long-stroke, high-speed LM Guide operations.

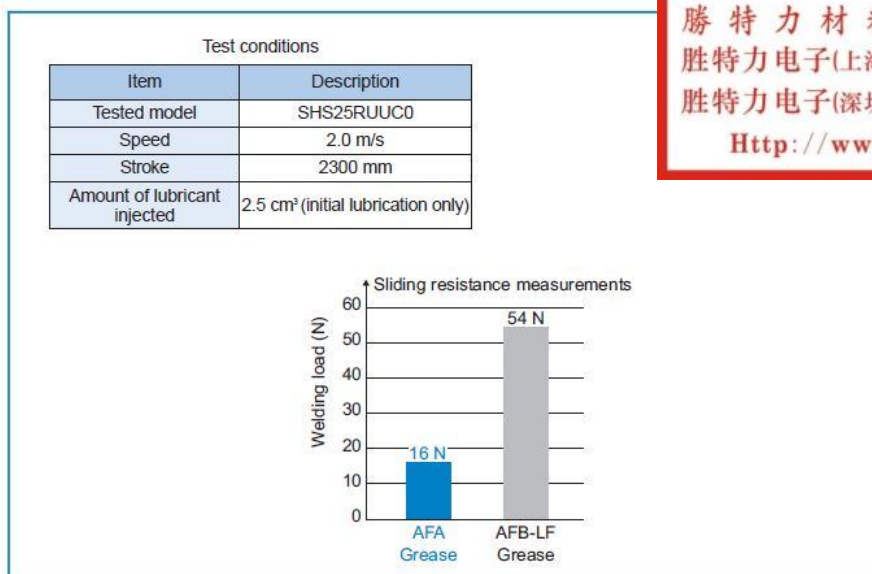
### (2) Water resistance

It is less vulnerable to moisture penetration than other types of grease because of its high water resistance.

## [Representative Physical Properties]

Item	Representative value	Test method
Consistency enhancer	Urea-based	
Base oil	High-grade synthetic oil	
Base oil kinematic viscosity: mm <sup>2</sup> /s (40°C)	25	JIS K 2220 23
Worked penetration (25°C, 60 W)	285	JIS K 2220 7
Mixing stability (100,000 W)	329	JIS K 2220 15
Dropping point: °C	261	JIS K 2220 8
Evaporation amount: mass% (99°C, 22 h)	0.2	JIS K 2220 10
Oil separation rate: mass% (100°C, 24 h)	0.5	JIS K 2220 11
Copper plate corrosion (B method, 100°C, 24 h)	Accepted	JIS K 2220 9
Low-temperature torque: mN·m (-20°C)	Starting	170
	Rotational	70
4-ball testing (welding load): N	3089	ASTM D2596
Service temperature range: °C	-45 to 160	
Color	Brown	

## [Sliding Resistance Comparison]



勝特力材料 886-3-5753170  
 胜特力电子(上海) 86-21-34970699  
 胜特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## [Rotational Torque Testing with Ball Screw Grease]

<Test method>

1 cm<sup>3</sup> of grease was applied to the KR4620A + 640L LM Guide and 2 cm<sup>3</sup> to the ball screw (initial injection only), and then the torque was measured at each motor rotation speed. The output values on the driver torque monitor were used for the torque measurements.

Rotational Torque Testing with Electric Actuators

Unit: N·cm

Grease used	Central value of dynamic viscosity mm <sup>2</sup> /s (cSt) (40°C)	Dynamic viscosity range mm <sup>2</sup> /s (cSt) (40°C)	Rotational speed			
			100 min <sup>-1</sup>	1000 min <sup>-1</sup>	2000 min <sup>-1</sup>	4000 min <sup>-1</sup>
AFA Grease	25	22.5 to 27.5	11.3	11.3	12.3	14.6
Lubricating oil VG32	32	28.8 to 35.2	11.2	10.8	13.4	14.7