

HIWIN G01 Grease for heavy load conditions

Features

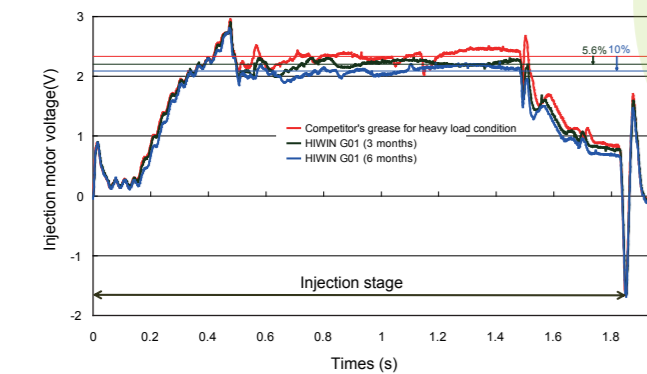
1. Excellent wear resistance and extreme pressure resistance under heavy load conditions
2. Low friction in low temperatures
3. Water resistant
4. Can be applied by a central lubrication system
5. Suitable for all-electric injection molding machines, die-stamping machines, semi-conductor manufacturing equipment, heavy load actuators, industrial machines and forging machines

Basic properties

		HIWIN G01
Color		Light yellow
Base Oil		Mineral oil
Consistency Enhancer		Polyurea
Additive		Solid lubricant
Service Temperature Range(°C)		-15~115
NLGI-grade (0.1mm)		310-340
Viscosity (cSt)	40°C	500
	100°C	30
Drop Point (°C)		>170
4-ball test	Load on boundary lubrication at 900rpm (N)	>1700
	Load on boundary lubrication at 1770rpm (N)	>1300

	HIWIN G01	Other	Notes	
Property of anti-extreme pressure	●	▲	4-ball test	900rpm 42%more 1770rpm 30%more
	●	▲	4-ball test	80kgf 30rpm 23%more
Anti-wear	●	▲	Injection motor votage 10%more	
Low friction	●	▲		
Water resistance	●	●		
Rust proof	●	●	Corrosion on copper test	
Service temperature range	-15~115	-20~130		

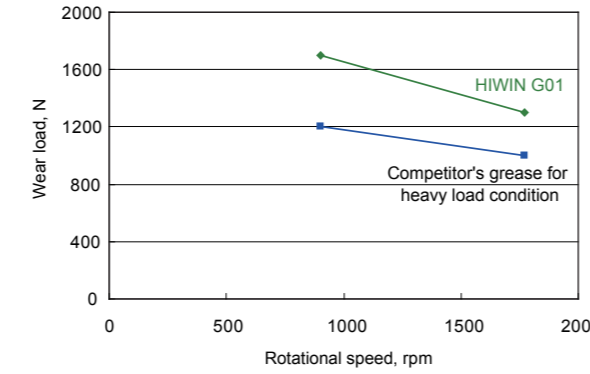
All-electric injection molding machine(80ton) – the voltage of motor which drives the ballscrew on injection unit.



Resistance to extreme pressure test

Test Condition and Measurement

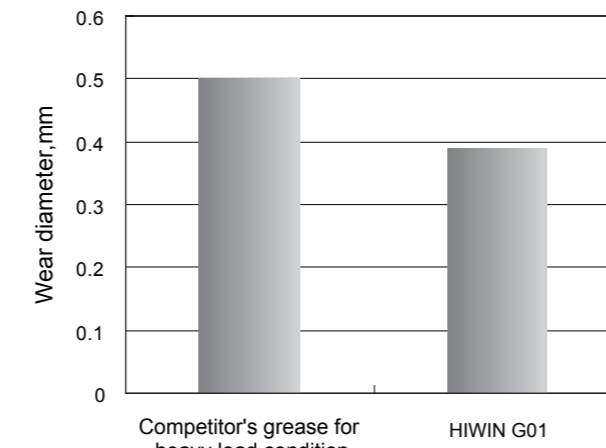
Ball diameter	1/2 in
Temperature	27°C
Test time	10 sec
Rotational speed	900 · 1770 rpm
Measurement	Load when ball wear diameter becomes 500µm



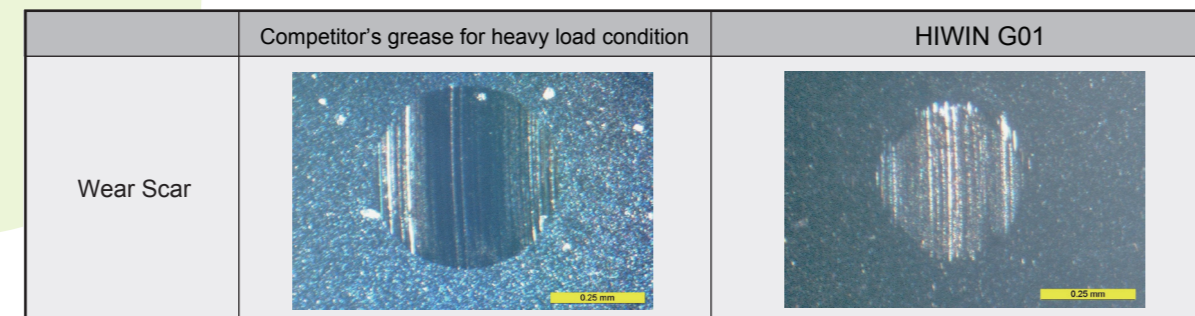
Anti-wear test

Test condition and measurement

Ball diameter	1/2 in
Temperature	75°C
Test time	60 min
Rotational speed	30 rpm
Load	80 kgf
Measurement	Wear diameter of ball contact point



Comparison of wear diameter



Comparison of wear scar

HIWIN G02 Grease with low dust generation

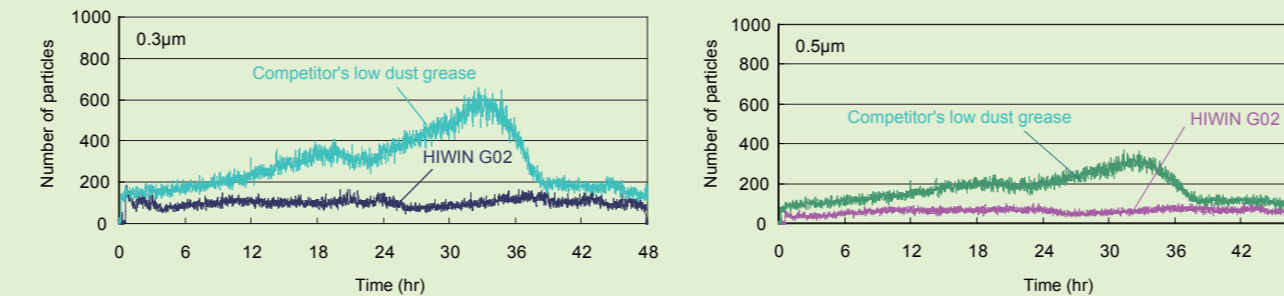
Features

1. Low dust generation, suitable for clean room environments
2. Wear resistant
3. Long term grease, suitable for wide temperature ranges
4. Consists of synthetic hydrocarbon oil and special calcium soap. Resistant to oxidation and ageing
5. Can be used in plastic/steel and plastic/plastic components, compatible with elastomers and plastic materials

Basic properties

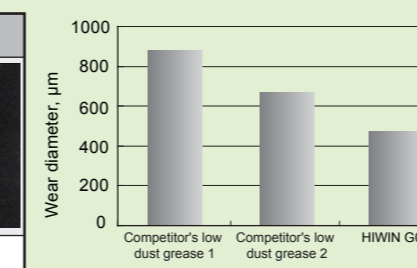
		HIWIN G02	Other	Notes
Color		Beige		
Base Oil		Synthetic hydrocarbon oil		
Viscosity Enhancer		Special calcium soap		
Service Temperature Range (°C)		-30~140		
NLGI grade (0.1mm)		265-295		
Viscosity (cSt)	40°C	100		
	100°C	15		
Drop point (°C)		>180		
4-ball test (ASTM D2266)		474µm		
Anti-wear	●	▲	4-ball test (ASTM D2266)	46%more
Dust generation	●	▲	Dust generation of KK in clean room	
Anti-corrosion	●	●		
Service temperature range	-30~140	-30~120		

Dust generation

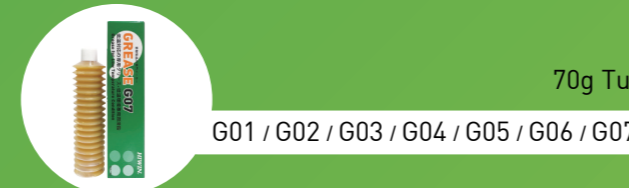


4-ball test (ASTM D2266)

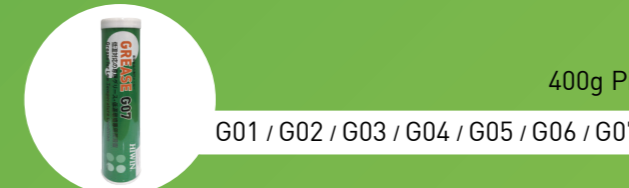
	Competitor's grease-1	Competitor's grease-2	HIWIN G02
Wear Scar			
Diameter (µm)	879	669	474



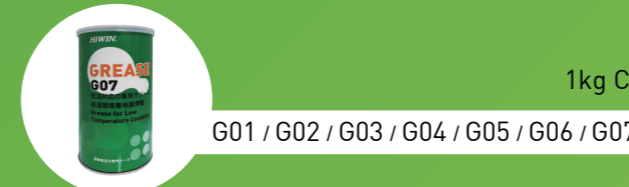
HIWIN Grease Capacity



70g Tube



400g Pipe



1kg Can

HIWIN TECHNOLOGIES CORP.

No. 7, Jingke Road,
Taichung Precision Machinery Park,
Taichung 40852, Taiwan
Tel: +886-4-23594510
Fax: +886-4-23594420
www.hiwin.tw
business@hiwin.tw

Subsidiaries & R&D Centers

HIWIN GmbH

OFFENBURG, GERMANY
www.hiwin.de
www.hiwin.eu
info@hiwin.de

HIWIN JAPAN

KOBE · TOKYO · NAGOYA · NAGANO ·
TOHOKU · HOKURIKU · HIROSHIMA ·
KUMAMOTO · FUKUOKA, JAPAN
www.hiwin.co.jp
info@hiwin.co.jp

HIWIN USA

CHICAGO · SILICON VALLEY, U.S.A.
www.hiwin.com
info@hiwin.com

HIWIN s.r.o.

BRNO, CZECH REPUBLIC
www.hiwin.cz
info@hiwin.cz

HIWIN Schweiz GmbH

JONA, SWITZERLAND
www.hiwin.ch
info@hiwin.ch

HIWIN FRANCE

ECHAUFFOUR, FRANCE
www.hiwin.fr
info@hiwin.fr

HIWIN Srl

BRUGHERIO, ITALY
www.hiwin.it
info@hiwin.it

HIWIN SINGAPORE

SINGAPORE
www.hiwin.sg
info@hiwin.sg

HIWIN KOREA

SUWON, KOREA
www.hiwin.kr
info@hiwin.kr

HIWIN CHINA

SUZHOU, CHINA
www.hiwin.cn
info@hiwin.cn

Mega-Fabs Motion System, Ltd.

HAIFA, ISRAEL
www.mega-fabs.com
info@mega-fabs.com

1. HIWIN is the registered trademark of HIWIN Technologies Corp. Please avoid buying the counterfeit goods that are from unknown sources to protect your rights.
2. Actual products may be different from the specifications and photos in this catalog and the differences in appearances or specifications may be caused by, among other things, product improvements.
3. HIWIN will not sell or export those techniques and products restricted under the "Foreign Trade Act" and relevant regulations. Any export of restricted products should be approved by competent authorities in accordance with relevant laws, and shall not be used to manufacture or develop the nuclear, biochemical, missile and other military weapons.
4. HIWIN website for patented product directory: http://www.hiwin.tw/Products/Products_patents.aspx

The specifications in this catalog are subject to change without notification.



- Hiwin G01 – Grease for heavy load conditions
- Hiwin G02 – Grease with low dust generation
- Hiwin G03 – Grease with low dust generation for high speed conditions
- Hiwin G04 – Grease for high speed conditions
- Hiwin G05 – Grease for general purpose
- Hiwin G06 – Grease for High Frequency or Short-stroke Condition
- Hiwin G07 – Grease for Low Temperature Condition



HIWIN G03 Grease with low dust generation for high speed conditions

Features

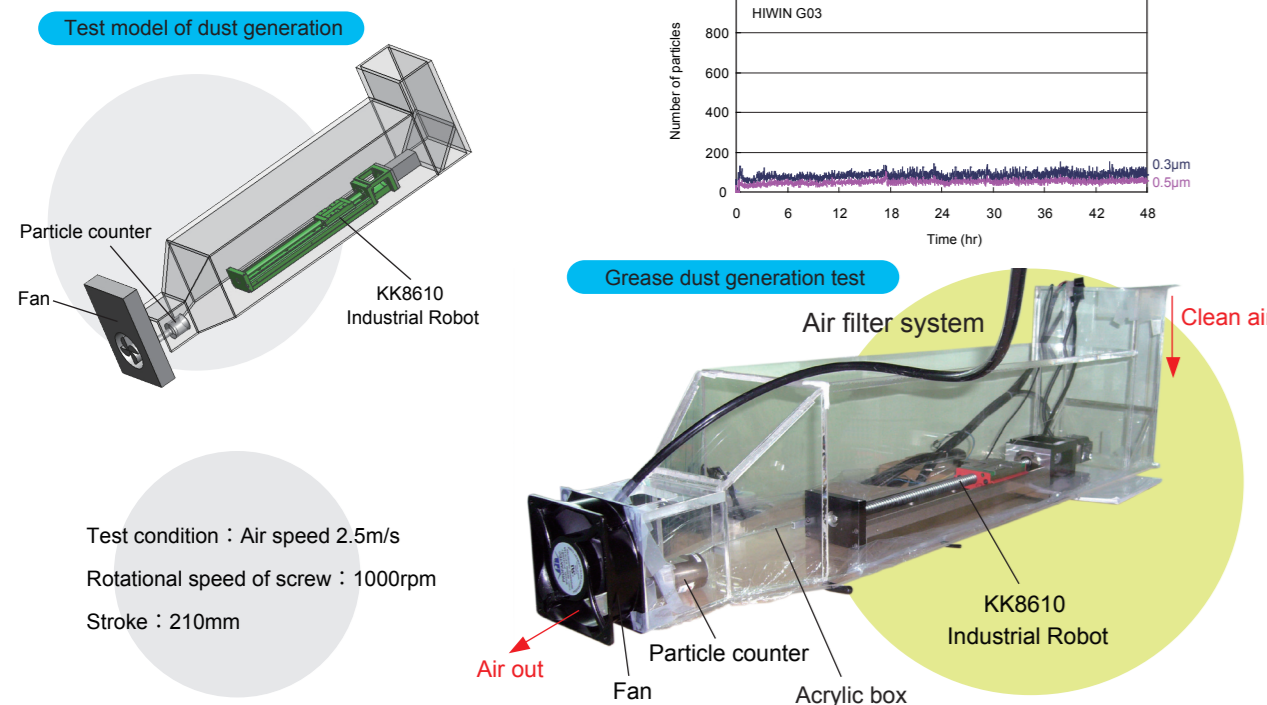
- 1.Low dust generation, suitable for clean room environments
- 2.Wear resistant under high speed conditions
- 3.Low starting and running torques particularly at low temperatures to ensure high efficiency and conserve energy
- 4.Compatible with plastic components

Basic properties

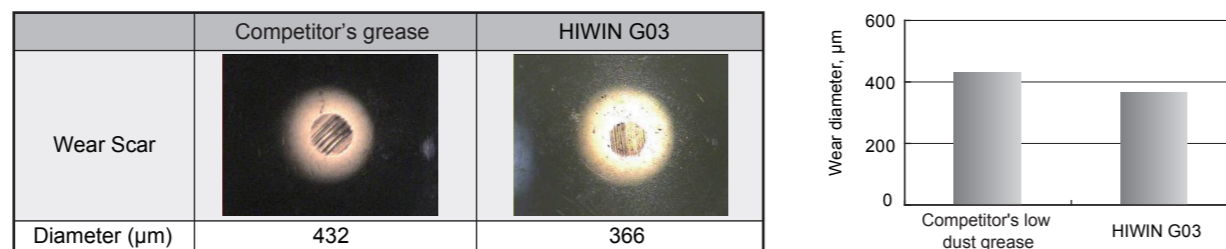
		HIWIN G03
Color		Beige
Base Oil		Synthetic hydrocarbon oil
Consistency Enhancer		Special calcium soap
Service Temperature Range (°C)		-45~125
NLGI grade (0.1mm)		265-295
Viscosity (cSt)	40°C	30
	100°C	5.9
Drop point(°C)		>210
4-ball test (ASTM D2266)		366µm

	HIWIN G03	Other	Notes
Anti-wear	●	●	4-ball test (ASTM D2266) 15%more
Dust generation	●	●	Dust generation of KK in clean room
Friction torque at low speed	●	▲	7~15 % lower less than 500rpm
Friction resistance at high speed	●	▲	Motor voltage 1.2~2.6% lower
Service temperature range	-45~125	-10~80	

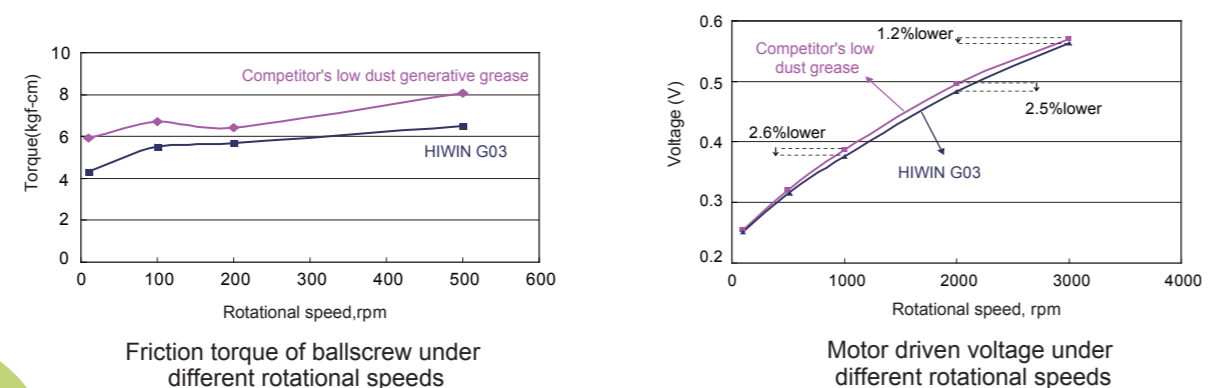
Dust generation



4-ball test (ASTM D2266)



Wear resistance



HIWIN G04 Grease for high speed conditions

Features

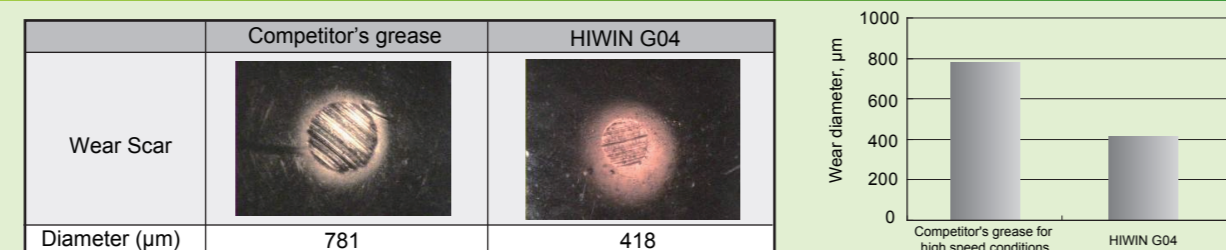
- 1.Wear resistant under high speed conditions
- 2.Low friction force under high speed conditions
- 3.Water resistant

Basic properties

		HIWIN G04
Color		Beige
Base Oil		Ester/PAO
Consistency Enhancer		Lithium soap
Service Temperature Range (°C)		-35 to 120
NLGI grade (0.1mm)		260 – 280
Viscosity (cSt)	40°C	25
	100°C	6
Drop Point (°C)		>225
4-ball test (ASTM D-2266)		418µm

	HIWIN G04	Other	Notes
Anti-wear	●	▲	4-ball test (ASTM D2266) 46 %more
Low friction	●	▲	motor voltage 4.6% lower at 3000rpm
Service temperature range	-35 to 120	-50 to 150	

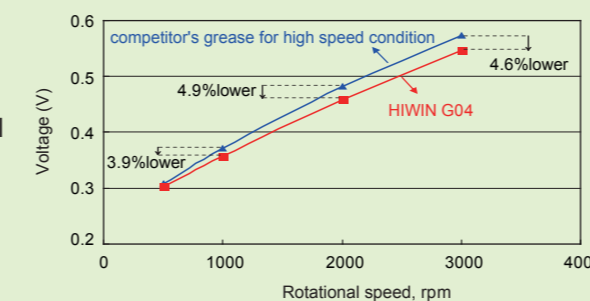
4-ball test(ASTM D2266)



Wear resistance

Screw type : 40-10

Test condition : motor driven voltage by different greases and rotational speeds



HIWIN G05 Grease for general purpose

Features

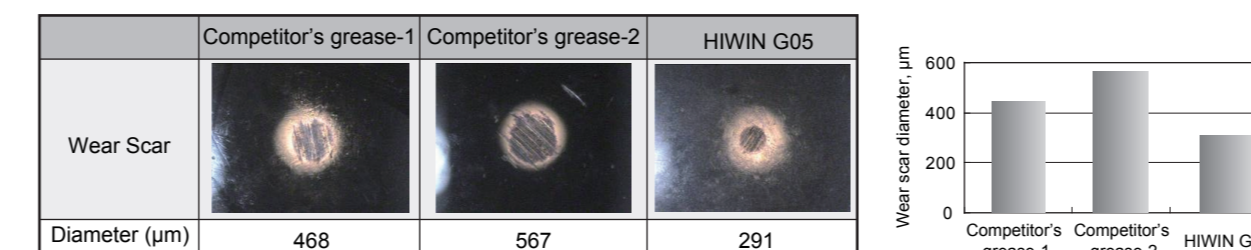
- 1.Wear resistance under general conditions
- 2.Low friction resistance under general conditions
- 3.Long-life
- 4.Stable to oxidation
- 5.Water resistant
- 6.Protects against corrosion

Basic properties

		HIWIN G05
Color		Brown
Base Oil		Mineral
Consistency Enhancer		Lithium soap
Service Temperature Range (°C)		-15 to 120
NLGI grade		2
Viscosity (cst)	40°C	200
	100°C	6
Drop Point (°C)		190
4-ball test	Wear scar diameter(µm) (ASTM D-2266)	291
	Welding load (N) (DIN 51350-4)	2600/2800

	HIWIN G05	Other	Notes
Anti-wear	●	▲	4-ball test (ASTM D2266) 38%~49%
Low friction resistance	●	▲	increases 16%~19%
Service temperature range	●	●	

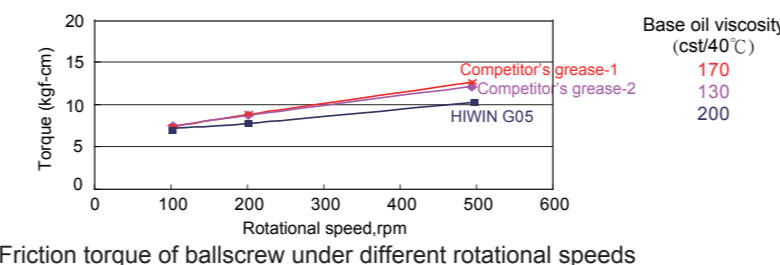
4-ball test(ASTM D2266)



Friction resistance

Screw diameter : 40mm

Lead : 10mm



HIWIN G06 - Grease for High Frequency or Short-stroke Condition

Features

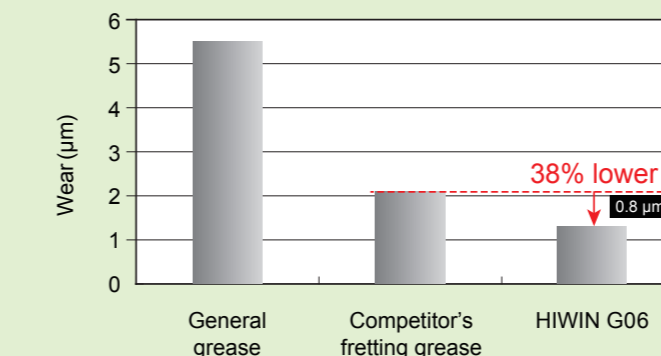
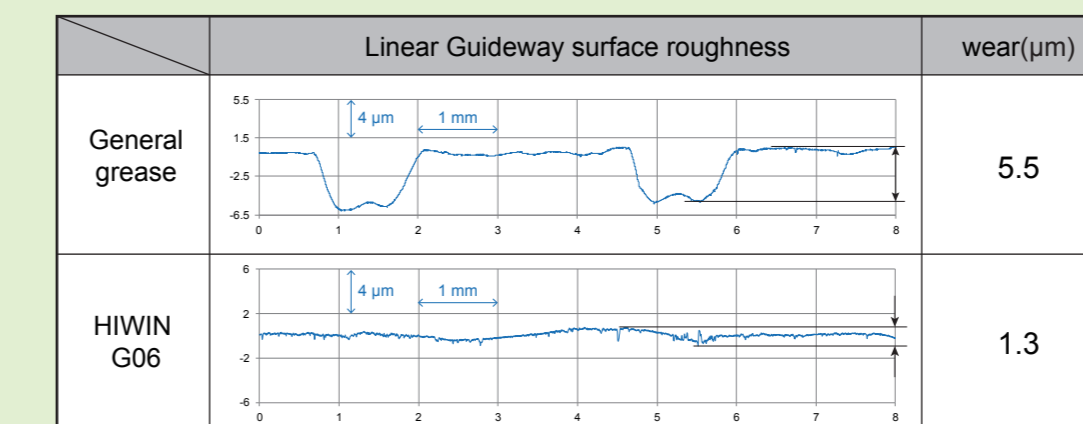
- 1.Well wear resistance under high frequency (1.5~3G) or short-stroke condition.
- 2.Long term grease, suitable for wide temperature range
- 3.Can be used in plastic/steel and plastic/plastic components, compatible with elastomers and plastic materials

Basic properties

		HIWIN G06
Color		Beige
Base oil		PAO
Consistency enhancer		Special Lithium soap
Service temperature range (°C)		-45 to 130
NLGI grade (0.1mm)		265 - 295
Viscosity (cst)	40°C	32
	100°C	6
Drop point (°C)		190

	HIWIN G06	Another general grease	NOTE
Anti wear	●	X	High frequency & short-stroke 3mm · 600 cycles/min increases 300%
Service temperature range	●	▲	

High frequency & short-stroke condition test (stroke 3mm · 600 cycles/min)



HIWIN G07 - Grease for Low Temperature Condition

Features

- 1.For low temperature condition: -50°C to 0°C.
- 2.Low starting and running torques particularly at low temperatures

Basic properties

		HIWIN G07
Color		Beige
Base oil		Mineral
Consistency enhancer		Lithium- calcium soap
Service temperature range (°C)		-50 to 80
NLGI grade (0.1mm)		310- 340
Viscosity (cst)	40°C	14
	100°C	3

	HIWIN G07	Competitor's low temperature grease	NOTE
Low starting torque (at low temperature condition)	●	▲	Ballscrew starting torque 20% lower at -40°C
Low Temperature Adaptability	●	●	

Low temperature torque test

Sample : Ballscrew
Model : Diameter φ25 mm · Lead 5mm ·
Test Conditions : -40°C~25°C

