

SKF lubricants

Poor lubrication accounts for over 36% of premature bearing failures



Bearing grease selection chart

Grease	Thickener	Base oil	NLGI grade	Base oil viscosity ¹⁾		LTL °C (°F)	LTPL °C (°F)	HTPL °C (°F)
				40 °C (105 °F)	100 °C (210 °F)			
LGMT 2	Li	Min	2	110	11	-30 (-22)	10 (50)	120 (248)
LGMT 3	Li	Min	3	125	12	-30 (-22)	40 (104)	120 (248)
LGEP 2	Li	Min	2	200	16	-20 (-4)	10 (50)	110 (230)
LGWA 2	Lix	Min	2	185	15	-30 (-22)	20 (68)	140 (284)
LGGB 2	Li-Ca	Ester	2	110	13	-40 (-40)	10 (50)	90 (194)
LGLT 2	Li	PAO	2	18	4,5	-50 (-58)	10 (50)	110 (230)
LGWM 1	Li	Min	1	200	16	-30 (-22)	0 (32)	110 (230)
LGEP 1	Li-Ca	Min	1	400	25	-20 (-4)	35 (95)	130 (266)
LGWM 2	CaSx	PAO/Min	1-2	80	8,6	-40 (-40)	10 (50)	110 (230)
LGEM 2	Li-Ca	Min	2	500	32	-20 (-4)	10 (50)	120 (248)
LGEV 2	Li-Ca	Min	2	1020	58	-10 (14)	30 (86)	120 (248)
LGHB 2	CaSx	Min	2	425	26,5	-20 (-4)	40 (104)	150 (302)
LGHC 2	CaSx	Min	2	450	31	-20 (-4)	30 (86)	140 (284)
LGHP 2	PU	Min	2-3	96	10,5	-40 (-40)	40 (104)	150 (302)
LGHQ 2	PU	Min	2	110	12	-30 (-22)	10 (50)	160 (320)
LGET 2	PTFE	PFPE	2	400	38	-40 (-40)	50 (122)	260 (500)
LGFG 2	CaSx	Min	2	150	16	-30 (-22)	30 (86)	140 (284)
LGFP 2	Alx	Min	2	150	15,3	-20 (-4)	20 (68)	110 (230)
LGFQ 2	CaSx	PAO	2	320	30	-40 (-40)	20 (68)	140 (284)
LGED 2	PTFE	PFPE	2	460	42	-30 (-22)	50 (122)	240 (464)

¹⁾ mm²/s at 40 °C (104 °F) = cSt.

LTL = Low temperature limit

LTPL = Low temperature performance limit

HTPL = High temperature performance limit

HTL = High temperature limit

HTL °C (°F)	Speed max. n x dm (x1000)	High load	Vertical shaft	Oscillating movements	Severe vibrations	Rust protection	Water resistance	Frequent start-up	
180 (356)	300	-	○	○	+	+	+	○	Wide applications greases
180 (356)	300	-	++	○	++	+	+	○	
180 (356)	300	+	○	○	+	+	+	++	
250 (482)	300	○	○	-	+	+	+	+	
170 (338)	300	○	○	+	-	○	+	+	
180 (356)	1600	--	○	-	--	-	+	○	Low temperatures
170 (338)	300	+	--	+	-	+	+	++	
170 (338)	300	++	--	+	-	+	+	++	
300 (572)	300	+	○	++	+	++	++	++	High loads
180 (356)	300	++	+	○	+	+	+	++	
180 (356)	300	++	○	○	+	+	+	++	
220 (428)	300	++	○	++	+	++	++	++	High temperatures
300 (572)	300	++	○	++	+	++	++	++	
240 (464)	500	-	+	-	--	++	++	○	
260 (500)	500	○	○	-	--	+	++	+	
300 (572)	300	++	○	-	○	-	+	○	
280 (536)	500	+	○	++	+	+	++	+	Food grade
250 (482)	300	--	○	-	--	○	+	○	
300 (572)	300	++	○	++	○	+	++	++	
300 (572)	300	++	○	-	○	-	+	○	

⊕ = Recommended

○ = Suitable

- = Not suitable

skf.com/lubeselect

	LGMT 2	LGMT 3	LGEP 2	LGWA 2	LGGB 2	LGLT 2	LGWM 1
DIN 51825 code	K2K-30	K3K-30	KP2G-20	KP2N-30	KPE 2K-40	KHC2G-50	KP1G-30
NLGI consistency class	2	3	2	2	2	2	1
Thickener	Lithium	Lithium	Lithium	Lithium complex	Lithium/calcium	Lithium	Lithium
Colour	Red brown	Amber	Light brown	Amber	Off white	Beige	Brown
Base oil type	Mineral	Mineral	Mineral	Mineral	Ester	PAO	Mineral
Operating temperature range	-30 to +120 °C (-20 to +250 °F)	-30 to +120 °C (-20 to +250 °F)	-20 to +110 °C (-5 to +230 °F)	-30 to +140 °C (-20 to +285 °F)	-40 to +90 °C (-40 to +195 °F)	-50 to +110 °C (-60 to +230 °F)	-30 to +110 °C (-20 to +230 °F)
Dropping point (min), ISO 2176	180 °C (355 °F)	180 °C (355 °F)	180 °C (355 °F)	250 °C (480 °F)	170 °C (340 °F)	180 °C (355 °F)	170 °C (340 °F)
Base oil viscosity, DIN 51562 40 °C, mm ² /s 100 °C, mm ² /s	110 11	125 12	200 16	185 15	110 13	18 4,5	200 16
Penetration DIN ISO 2137 Worked, 60 strokes, 10 ⁻¹ mm Prolonged (max.), 100 000 strokes, 10 ⁻¹ mm	265-295 +50	220-250 280	265-295 +50	265-295 +50	265-295 +50	265-295 +50	310-340 +50
Mechanical stability Roll stability, ASTM D 1831 (max.) 50 hrs at 80 °C, 10 ⁻¹ mm V2F test, 144 hrs	+50 M	295 M	+50 M	+50 -	+70 -	- -	- -
Corrosion protection, Emscor ISO 11007, Distilled water ISO 11007 modified, Water washout ISO 11007 modified, 0.5% NaCl	0-0 0-0 -	0-0 0-0 -	0-0 0-0 -	0-0 0-0 -	0-0 - -	0-1 - -	0-0 0-0 0-0
Water resistance (max.) DIN 51 807/1, 3 hrs at 90 °C	1	1	1	1	0	1	1
Oil separation DIN 51 817, 40 °C, %	1-6	1-3	2-5	1-5	0,8-3	<4	8-13
Lubrication ability R2F, test B at 120 °C	Pass	Pass	Pass	Pass at 100 °C (210 °F)	Pass at 100 °C (210 °F)	-	Pass at 100 °C (210 °F)
Copper corrosion (max.) DIN 51811 / ASTM D4048, 24 hrs at 100 °C	2 max. at 110 °C (230 °F)	2 max. at 130 °C (265 °F)	2 max. at 110 °C (230 °F)	2 max.	-	1 max.	2 max. at 90 °C (>195 °F)
Grease life (min) ROF test L ₅₀ life, 10 000 r/min, hrs at °C	1 000 at 100 °C (212 °F)	1 000 at 130 °C (265 °F)	1 000 at 110 °C (230 °F)	1 000 at 120 °C (250 °F)	1000 at 100 °C (210 °F)	1 000 at 100 °C (210 °F) and 20 000 r/min.	1000 at 100 °C (210 °F)
EP performance 4 ball - Wear scar (max.) DIN 51 350, 1 400 N, mm 4 ball - Weld load (min.) DIN 51350/4, N	- - -	- - -	1.4 2 800	1.8 2 600	1.8 2 600	- 2 000 min.	1.8 2 800
Low temperature torque Start/Running, mNm	300/100 at -30 °C (-20 °F)	150/100 at -30 °C (-20 °F)	200/50 at -20 °C (-5 °F)	100/50 at -20 °C (-5 °F)	-	50/20 at -50 °C (-60 °F)	500/100 at -30 °C (-20 °F)

These characteristics represent typical values.

Wide applications greases

LGEP 1	LGWM 2	LGEM 2	LGEV 2	LGHB 2	LGHC 2	LGHP 2	LGHQ 2	LGET 2
KP1K-20	KP2G-40	KPF2K-20	KPF2K-10	KP2N-20	KP2N-20	K2N-40	K2P-30	KFK2U-40
1	1-2	2	2	2	2	2-3	2	2
Lithium-Calcium	Calcium sulphonate complex	Lithium/calcium	Lithium/calcium	Calcium sulphonate complex	Complex calcium sulphonate	Polyurea	Polyurea	PTFE
Beige	Light brown	Black	Black	Brown	Brown	Blue	Blue	White
Mineral	Mineral/PAO	Mineral	Mineral	Mineral	Mineral	Mineral	Mineral	PFPE
-20 to +120 °C (-4 to +240 °F)	-40 to +110 °C (-40 to +230 °F)	-20 to +120 °C (-5 to +250 °F)	-10 to +120 °C (15 to 250 °F)	-20 to +150 °C (-5 to +300 °F)	-20 to +140 °C (-5 to +284 °F)	-40 to +150 °C (-40 to +300 °F)	-30 to +160 °C (-2 to +320 °F)	-40 to +260 °C (-40 to +500 °F)
170 °C (340 °F)	300 °C (570 °F)	180 °C (355 °F)	180 °C (355 °F)	220 °C (430 °F)	300 °C (570 °F)	240 °C (465 °F)	260 °C (500 °F)	300 °C (570 °F)
400 25	80 10	500 32	1 020 47	425 27.5	450 31	96 10,5	110 12	400 38
310-340 +50	280-310 +30	265-295 +50	265-295 +50	265-295 -20 to +50	265-295 +30	245-275 365 max.	265-295 385 max.	265-295 -
+50 -	+30 -	+50 M	+50 M	-20 to +50 M	+30 -	365 max. -	385 max. -	+30 max. at 130 °C (265 °F) -
0-0 0-0 0-0 (1% NaCl)	0-0 0-0 0-0	0-0 0-0 2-2	0-0 0-0 2-2	0-0 0-0 0-0	0-0 - 0-1	0-0 0-0 0-0	0-0 0-1 -	1-1 - -
1	1	1	1	1	1	1	1	0
1-5	3 max.	1-5	1-5	1-3 at 60 °C (140 °F)	1-3 at 60 °C (140 °F)	3 max.	1-3	1-3
Pass at 80 °C (176 °F)	Pass,	Pass, 100 °C (210 °F)	Pass, 100 °C (210 °F)	Pass at 140 °C (284 °F)	Pass	Pass at 100 °C (210 °F)	Pass at 100 °C (210 °F)	-
1 max. at 120 °C (250 °F)	2 max.	2 max.	1 max	2 max. at 150 °C (302 °F)	1b	1 max. at 150 °C (300 °F)	1b max. at 100 °C (210 °F)	1 max. at 150 °C (300 °F)
1000 at 100 °C (210 °F)	1000 at 110 °C (230 °F)	1000 at 100 °C (210 °F)	1000 at 100 °C (210 °F)	1 000 at 130 °C (265 °F)	1000 at 110 °C (230 °F)	1 000 at 150 °C (300 °F)	1 000 at 160 °C (302 °F)	1 000 at 220 °C (428 °F)
1,8 3 400	2 4 000	1,2 3 400	1,2 3 000	2 4 000	1,2 4 000	- -	1 2600	- 8 000 min.
300/100 at -20 °C (-5 °F)	900/200 at -40 °C (-40 °F)	150/50 at, -20 °C (-5 °F)	150/100 at -10 °C (14 °F)	350/100 at -20 °C (-5 °F)	250/100 at -20 °C (-5 °F)	1 000/300 at -40 °C (-40 °F)	550/100 -30 °C (-20 °F)	-

Low temperatures

High loads

High temperatures

Food grade lubricants

Grease	Description	Application examples	Base oil	Temperature range ¹⁾	
				LTL	HTPL
LGFP 2	General purpose food grade grease	Food processing equipment Wrapping machines Bottling machines	White mineral oil	-20 °C (-5 °F)	+110 °C (+230 °F)
LGFG 2	General purpose food grade grease	Conveyor bearings Wrapping machines Bottling machines	White mineral oil	-30 °C (-22 °F)	+140 °C (+284 °F)
LGFQ 2	High load, water resistant and wide temperature food grade grease	Pellet presses Mills Mixers	PAO	-40 °C (-40 °F)	+140 °C (+284 °F)
LGED 2	High temperature & harsh environment bearing grease	Bakery/brick oven equipment Glass industry Vacuum pumps	PFPE	-30 °C (-22 °F)	+240 °C (+464 °F)
LFFM 100	Food grade chain oil	General chain lubrication as in confectionery industries and fruit and vegetable processing. Even in the presence of moisture.	PAO	-30 °C (-22 °F)	+130 °C (+265 °F)
LFFT 220	Food grade chain oil	High temperature applications as bakery ovens	Ester	0 °C (32 °F)	+250 °C (482 °F)
LDTS 1	Food grade dry film lubricant	Conveyors in bottling lines using PET, carton, glass or can packages	Mineral/PTFE	-5 °C (25 °F)	+60 °C (140 °F)

These characteristics represent typical values.

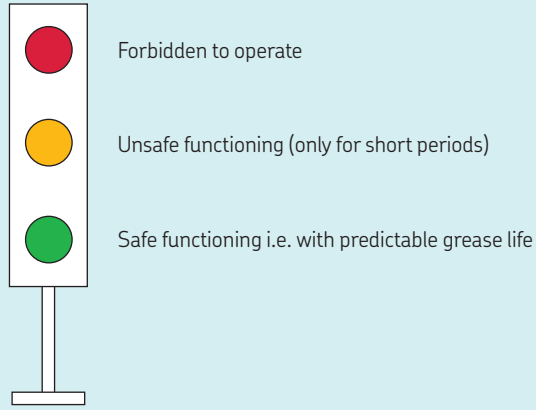
Lubricants for non rolling bearing applications

Grease	Description	Application examples	Thickener/Base oil	Temperature range ¹⁾	
				LTL	HTPL
LMCG 1	Grid and gear coupling grease	Grid and gear couplings Flexible heavy duty grid and gear coupling	Polyethylene / mineral	0 °C (32 °F)	120 °C (248 °F)
LGTE 2	Biodegradable grease for total loss applications	Marine and wire rope applications Construction as well as forestry and agricultural equipment. Ecolabel certified.	Anhydrous calcium / ester	-40 °C (-40 °F)	+100 °C (+212 °F)
LGLS 0	Wide temperature lubrication systems grease	Plain bearings and chassis sliding surfaces Centralized lubrication systems	Anhydrous calcium / mineral	-40 °C (-40 °F)	+100 °C (+212 °F)
LGLS 2	High viscosity lubrication systems grease	Slow plain bearings, joints, wire ropes Lubrication systems under medium to high ambient temperatures	Anhydrous calcium / mineral	-20 °C (-4 °F)	+120 °C (+248 °F)
LHMT 68	Medium temperature chain oil	Ideal for medium temperatures and dusty environments	Mineral	-20 °C (-4 °F)	+100 °C (212 °F)
LHHT 250	High temperature chain oil	Ideal for high load and/or high temperature conditions	Ester	-0 °C (32 °F)	+250 °C (482 °F)

These characteristics represent typical values.

¹⁾ LTL = Low Temperature Limit
HTPL = High Temperature Performance Limit

SKF Traffic light concept



Temperature →



LTL – Low-temperature limit:

The lowest temperature at which the grease will allow the bearing to be started up without difficulty.

LTPL – Low-temperature performance limit:

Below this limit, the supply of grease to the contact surfaces of rolling elements and raceways may become insufficient. Values are different for roller and ball bearings.

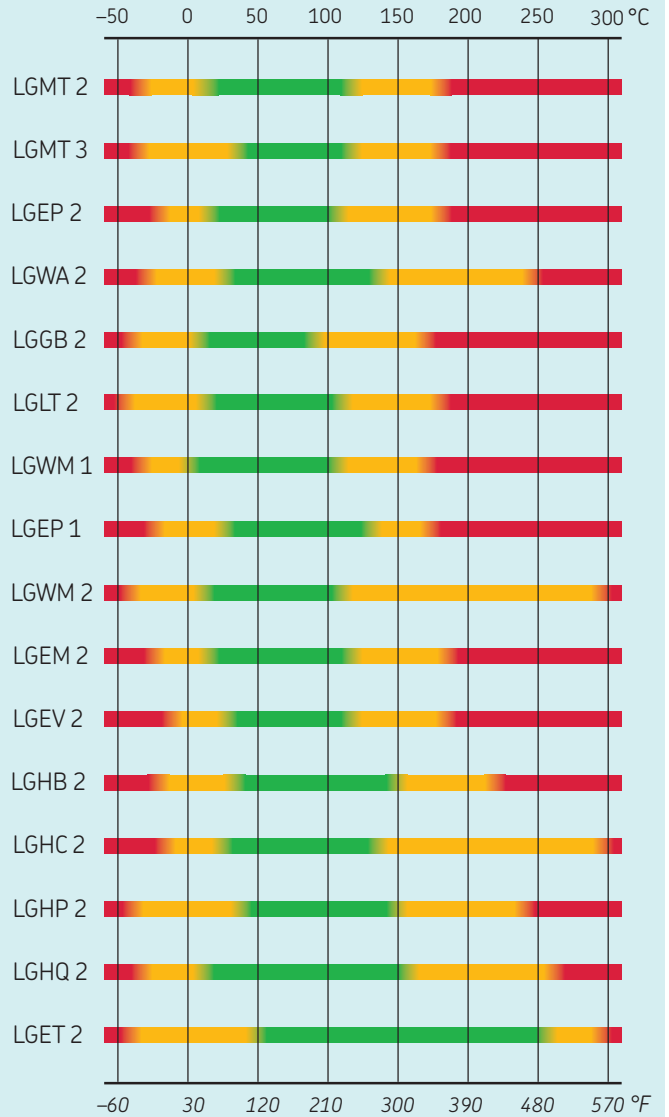
HTPL – High-temperature performance limit:

Above this limit the grease will oxidise in an uncontrolled way, so that grease life cannot be determined accurately.

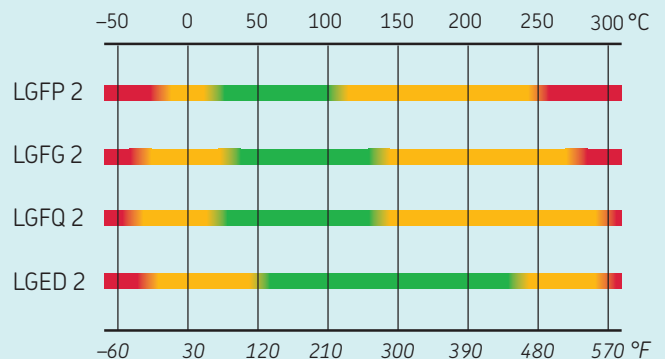
HTL – High-temperature limit:

When exceeding this limit, the grease loses its structure permanently (e.g., the dropping point for soap-base greases).

Operating temperature range of greases



SKF Food Grade Lubricants





skf.com | skf.com/lubrication | skf.com/mapro

© SKF is a registered trademark of the SKF Group.

© SKF Group 2022
The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless prior written permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

PUB MP/P8 13238/3 EN · February 2022