

The designation system of the INA and FAG brands has been harmonised. This publication contains, for the first time, the new ordering designations, which are currently only valid for Europe. Customers outside Europe are requested to continue using the old ordering designations (please see the comparison on page 22).

A grease must go a long way before it can be called Arcanol

Special rolling bearing greases such as Arcanol offer the best conditions for achieving reliable, durable and cost-effective bearing arrangements. For Arcanol gives you certainty, since Schaeffler KG carries out selection tests, provides quality assurance and gives practice-based lubrication recommendations. Bearings that fail prematurely because they were lubricated with the wrong grease, with all the unpleasant and expensive consequences, are increasingly a thing of the past.

In co-operation with renowned lubricant manufacturers, we have for many years developed lubricants that are particularly suitable for rolling bearings. However, before a new grease can be included in the Arcanol range, it is subjected to a series of tests in the Schaeffler lubricant laboratory.

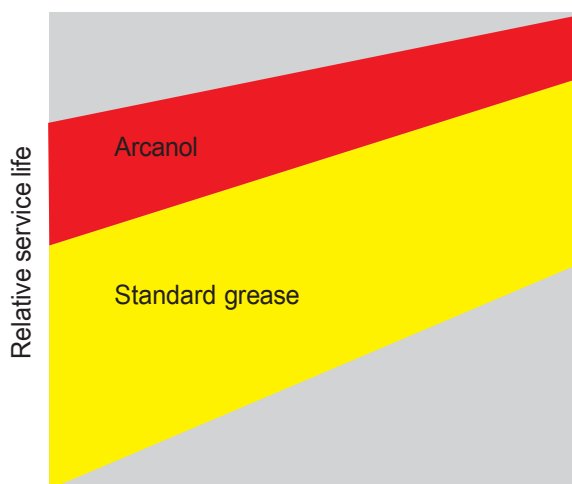
The greases are tested thoroughly. On our lubricant test rigs FE8 (DIN 51819) and FE9 (DIN 51821), the greases are tested in rolling bearings to determine their service life, friction and wear characteristics. Only the best greases are then selected to undergo the subsequent tests under simulated field conditions in far more complex rolling bearing test rigs. If the results fulfil the requirements of the stringent Schaeffler specifications, the grease is “decorated”. It receives the Arcanol seal of quality.

In addition, we test every single batch to ensure the uniform quality of the product. It is only after this final test that approval can be given to designate the grease as Arcanol.

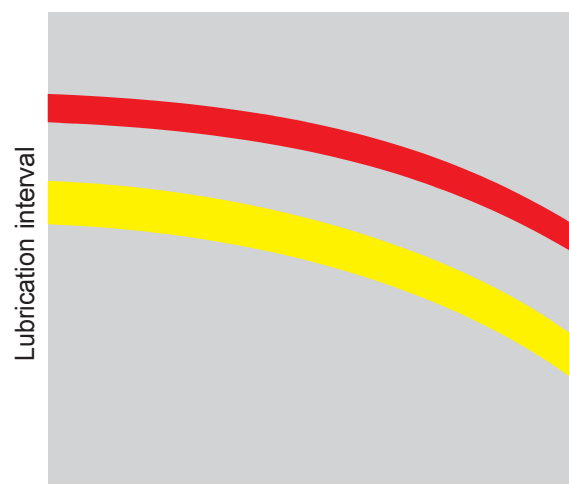
The range is graduated such that almost all areas of application can be optimally covered using these greases.

The overview on pages 2/3 shows chemical-physical data, fields of application and the conditions for which these greases are suitable. The selection of a suitable grease is considerably facilitated by the electronic INA/FAG rolling bearing catalogue.

- More than 80% of all rolling bearings are lubricated with grease
- Inadequate lubrication causes more than 40% of all cases of rolling bearing damage
- Users therefore require lubricants and lubrication recommendations they can rely on
- Arcanol rolling bearing greases ensure that a bearing can be used to its full capacity
 - long service life
 - good running behaviour
 - high operational security.



Mixed friction



Rotational speed

Selection table

Arcanol Previous designation	MULTITOP (L135V)	MULTI2 (L78V)	MULTI3 (L71V)	LOAD150 (-)	LOAD220 (L215V)	LOAD400 (L186V)	LOAD1000 (L223V)
Thickener	Lithium soap	Lithium soap	Lithium soap	Lithium complex	Mixed thickener	Mixed thickener	Mixed thickener
Base oil	Partially synth. oil	Mineral oil	Mineral oil	Mineral oil	Mineral oil	Mineral oil	Mineral oil
Base oil viscosity at 40 °C [mm ² /s]	≥ ISO VG 68	≥ ISO VG 68	≥ ISO VG 68	≥ ISO VG 150	ISO VG 220	≥ 400	ISO VG 1000
Consistency (NLGI class)	2	2	3	2	1 – 2	2	2
Operating temperature [°C]	-40...+140	-30...+120	-30...+120	-20...+140	-20...+140	-20...+140	-20...+140
Continuous limit temperature [°C]	80	75	75	90	80	80	80
Characteristic application areas	Universal grease for ball and roller bearings in rolling mills, construction machinery, automotive engineering, spinning and grinding spindles at increased speeds, high loads, low and high temperatures	Universal grease for ball bearings ØD ≤ 62 mm in small electric motors, agricultural and construction machinery, household appliances	Universal grease for ball bearings ØD > 62 mm in large electric motors, agricultural and construction machinery, fans	Special grease for ball, roller and needle roller bearings, linear guidance systems in machine tools at high loads, wide speed range, swivel motion	Special grease for ball and roller bearings in rolling mill plant, rail vehicles at high loads, wide speed range, high humidity	Special grease for ball and roller bearings in mining machinery, construction machinery, wind turbines at very high loads, moderate temperatures, moderate speed	Special grease for ball and roller bearings in mining machinery, construction machinery, preferably under shock loads and in large bearings at very high loads, moderate temperatures, low speed
Low temperatures	++	+	+	o	o	–	o
High temperatures	o	o	o	o	o	o	o
Low friction, high speeds	+	o	o	–	–	–	--
High loads, low speeds	+	o	o	++	++	++	++
Vibrations	+	o	+	+	+	+	+
Support for seals	o	o	+	+	+	+	+
Relubrication facility	++	++	+	+	+	+	+

ISO VG =	++ extremely suitable	o suitable	– less suitable
ISO viscosity group	+ highly suitable		-- not suitable

TEMP90 (L12V)	TEMP110 (L30V)	TEMP120 (L195V)	TEMP200 (L79V)	SPEED2,6 (L75)	VIB3 (L166V)	BIO2 (-)	FOOD2 (-)
Mixed thickener	Lithium complex	Poly-carbamide	PTFE	Polycarbamide	Lithium complex	Mixed thickener	Aluminium complex
Synthetic oil	Synthetic oil	Synthetic oil	Fluoro polyether oil	Synthetic oil	Mineral oil	Synthetic oil	White oil
≥ ISO VG 100	≥ ISO VG 68	ISO VG 460	ISO VG 220 - 460	≥ ISO VG 22	≥ ISO VG 150	≥ ISO VG 68	≥ ISO VG 100
2	2 - 3	2	2	2 - 3	3	2	1 - 2
-30...+140	-40...+160	-30...+180	-30...+250	-30...+120	-30...+150	-30...+120	-30...+120
90	110	120	200	80	90	80	70
Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings	Special grease for ball and roller bearings
in couplings, electric motors, automotive engineering	in electrical equipment, automotive engineering	in continuous casting plant	in track rollers in baking automatic equipment piston pins in compressors, kiln trucks, chemical plant	in machine tools, instruments	in blade adjusters in rotors for wind turbines, packaging machinery, rail vehicles	in environmentally harmful applications	in applications with food contact; H1 to USDA
at high temperatures, high loads	at high temperatures, high speeds	at high temperatures, high loads	at very high temperatures, chemically aggressive environments	at very high speeds, low temperatures	at high temperatures, high loads, oscillating motion		
++	++	+	++	++	+	+	+
+	++	++	++	0	+	0	-
0	+	-	--	++	-	0	0
0	0	++	+	--	+	0	0
0	0	0	-	-	++	0	0
0	0	0	0	0	0	0	0
0	0	0	0	+	-	+	++

Universal grease MULTITOP

MULTITOP Universal grease for ball bearings and roller bearings

Typical applications:

- Motor vehicles
- Rolling mills
- Construction machinery
- Spinning and grinding spindles

Suitable for

Low temperatures	++
High temperatures	O
Low friction,	
high speeds	+
High loads,	
low speeds	+
Vibrations	+
Support for seals	O
Relubrication facility	++

Rating

- ++ extremely suitable
- + highly suitable
- O suitable

Available containers:

- 250 g tube
- 400 g cartridge
- 1 kg can
- 5 kg bucket
- 10 kg bucket
- 25 kg hobbock
- 180 kg drum

SCHAEFFLER GROUP
INDUSTRIAL

FAG

FAG Rolling Bearing Grease Arcanol MULTITOP

Properties, applications: Bearing grease for high loads, low and high speeds, low and high temperatures, low noise, low friction

Characteristics	Unit	Value	Test method
Marking:		KP2N-40	DIN 51825
Density:	[kg/dm ³]	ca. 0,9	
Specifications:			
Thickener:		lithium soap	
Type of base oil:		part synth oil	
Temperature range:	[°C]	-40 to 140	DIN 51825
Longtime limit temperature:	[°C]	80	
Base oil viscosity at 40°C:	[mm ² /s]	≥ ISO VG 68	DIN 51562 - 1
Worked penetration:	[0,1 mm]	265-295	DIN ISO 2137
Drop point:	[°C]	≥ 190	DIN ISO 2176
Water resistance:	[Range]	≤ 1-90	DIN 51807 - 1
Corrosion Emcor Test:	[Corr.Grad]	0/0	DIN 51802
1% NaCl:	[Corr.Grad]	≤ 1/1	
Copper corrosion after 24 h/120 °C:	[Corr.Grad]	≤ 1	DIN 51811
FE8 tests run Wear behaviour Running time 500 hours, no failure			
536048 - 3000/10-RT	[mg]	vWk50 ≤ 35mg	DIN 51819
536048 - 75/80-RT	[mg]	vWk50 ≤ 35mg	DIN 51819
536050MP - 7,5/80-120	[mg]	vWk50 ≤ 35mg	DIN 51819
FE9 tests run (grease service lifetime)			
A/1500/6000-130	[h]	F50 ≥ 200 h	DIN 51821-02
	[h]	no failure < 100h	
Speed range:	Unit	Ball bearings and cylindrical roller bearings	Other roller bearings*)
Speed limit n*dm	[mm/min]	800.000	350.000

*) not cylindrical roller thrust bearings and spherical roller thrust bearings

This copy is not taken into account by the updating service.
The data are based on actual knowledge at the time of print and refer to the respective test method. Guaranteed properties or warranties cannot be taken over.
Edition: 15.01.2008



Universal grease MULTI2

MULTI2 Universal grease for ball bearings of D 62 mm

Typical applications:

- Small electric motors
- Agricultural and construction machinery
- Household appliances

Suitable for

Low temperatures

+

High temperatures

o

Low friction,

high speeds

o

High loads,

low speeds

o

Vibrations

o

Support for seals

o

Relubrication facility

++

Rating

++ extremely suitable

+ highly suitable

o suitable

Available containers:

20 g tube

250 g tube

400 g cartridge

1 kg can

5 kg bucket

10 kg bucket

25 kg hobbock

180 kg drum

SCHAEFFLER GROUP
INDUSTRIAL

FAG

FAG Rolling Bearing Grease Arcanol MULTI2

Properties, applications: Grease for bearings up to ØD ≤ 62mm

Characteristics	Unit	Value	Test method
Marking:		KP2K-30	DIN 51825
Density:	[kg/dm³]	ca. 0,9	
Specifications:			
Thickener:		lithium soap	
Type of base oil:		mineral oil	
Temperature range:	[°C]	-30 to 120	DIN 51825
Longtime limit temperature:	[°C]	75	
Base oil viscosity at 40°C:	[mm²/s]	≥ ISO VG 68	DIN 51562 - 1
Worked penetration:	[0,1 mm]	265-295	DIN ISO 2137
Drop point:	[°C]	≥ 180	DIN ISO 2176
Water resistance:	[Range]	≤ 1-90	DIN 51807 - 1
Corrosion Emcor Test:	[Corr.Grad]	0/0	DIN 51802
1% NaCl:	[Corr.Grad]	≤ 1/1	
Copper corrosion after 24 h/120 °C:	[Corr.Grad]	≤ 2	DIN 51811
FE8 tests run Wear behaviour			
536050MP - 7,5/80-80	[mg]	Running time 500 hours, no failure vWk50 ≤ 35mg	DIN 51819
FE9 tests run (grease service lifetime)			
A/1500/6000-130	[h]	F50 ≥ 100 h no failure < 80h	DIN 51821-02
Speed range:	Unit	Ball bearings and cylindrical roller bearings	Other roller bearings*)
Speed limit n*dm	[mm/min]	500.000	250.000

*) not cylindrical roller thrust bearings and spherical roller thrust bearings

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