

# THE PERFECT MATCH FOR YOUR APPLICATION

perma LUBRICANTS



The Expert in Lubrication Solutions

**perma**

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[www.permausa.com](http://www.permausa.com)



For more than 50 years, perma has stood for innovative and creative lubrication solutions. Now, we are extending our exclusive line of perma greases to enhance our product offerings and ensure an uninterrupted supply chain. With our many years of experience, we can offer you a wide range of high-quality lubricants designed to meet your needs. Our comprehensive family of greases have been specifically developed to meet the rigorous heavy industry demands of our customers while providing superior protection for critical rotating equipment such as conveyors, pumps, fans, and electric motors. The perma range includes multipurpose, food, speed and heavy load greases with petroleum or synthetic base.

## Grease specifications

### BASE OIL

The base oil determines the properties and performance of the lubricant. Base oils are mineral oils, hydrocracked oils, polyalphaolefin (PAO) oils or synthetic ester oils.

### BASIC VISCOSITY

The viscosity indicates the flowability of the base oil. Low viscosity base oils are used for very high speeds. High viscosity base oils are used for high load applications. The viscosity of a typical roller bearing grease at +40 °C is between 15 and 500 mm²/s.

### ADDITIVES

The tribological properties of the lubricant are enhanced with additives. The additives, such as anti-wear (AW) additives or EP additives, are mixed with the base oil.

Additives are selected specifically for each particular application to ensure the required properties. Depending on the application concerned, additives can be used for specific purposes, such as increasing pressure resistance and shear strength.

### NLGI GRADE

The NLGI grade (consistency number) denotes the consistency of a lubrication grease. Grades range from 000 (very fluid) to 6 (very hard). Greases up to NLGI grade 2 can be used in perma lubrication systems.

### THICKENER

The thickener acts like a sponge. It holds the individual components of the grease together and ensures that the oil stays at the contact point.

### SPEED INDEX = DK

The speed index indicates the maximum speed for various bearing types for which a specific lubricant is suitable. perma overviews specify the speed indexes for grease lubrication of deep groove ball bearings.

### CALCULATION:

$n \times dm = \text{speed factor } dk$        $dm = (D + d) \div 2$   
n = Operating speed (1/min); D = Outside bearing diameter (mm);  
d = Inside (bore) bearing diameter (mm)

### OPERATING TEMPERATURE

The operating temperature is the temperature range within which the lubricant is guaranteed to function reliably. Using the lubricant outside this range can lead to damage.

## perma LUBRICANTS - naming convention

perma	MULTI	LC	SYN	220-1
perma Brand Name	Application	Thickener	Base Oil	Base oil viscosity & NLGI
	⋮	⋮		⋮
	SPEED	AX - Aluminium Complex		100 - 2
	MULTI	CS - Calcium Sulphonate		150 - 2
	LOAD	LC - Lithium Calcium		220 - 1
	FOOD	LX - Lithium Complex		220 - 2
		PU - Polyurea		460 - 1
				460 - 2

perma MULTI lubricants

perma SPEED lubricants

perma LOAD lubricants

perma FOOD lubricants

perma Grease name	Grease Specification						Grease Applications				Grease Characteristics					
	Thickener type	Oil type	cSt @ 40°C	NLGI	Temperature Range	Color	Electric Motors	Fans & Blowers	Pumps	Conveyors	High Speed	Low Speed	High Load	Mod Load / EP	Low Load	Water

perma MULTI LC 150-2 (SF01)	Lithium Calcium	Mineral	150	2	-30°C - 130°C -22°F - 266°F	Brown	*	**	**	**	*	***	**	**	*	***
perma MULTI LX 220-1 (SF101)	Lithium Complex	Mineral	220	1	-18°C - 140°C 0°F - 284°F	Blue/ Green	*	**	**	***	*	***	**	**	*	**
perma MULTI LX 220-2 (SF111)	Lithium Complex	Mineral	220	2	-18°C - 140°C 0°F - 284°F	Blue/ Green	*	**	**	***	*	***	**	**	*	**
perma MULTI LC SYN 220-1 (SF120)	Lithium Calcium	Semi-Synthetic	230	1	-30°C - 140°C -22°F - 284°F	Blue	*	***	***	**	*	***	**	**	*	**
perma MULTI LC SYN 220-2 (SF130)	Lithium Calcium	Semi-Synthetic	230	2	-30°C - 140°C -22°F - 284°F	Blue	*	***	***	**	*	***	**	**	*	**

perma SPEED LX 100-2 (SF140)	Lithium Complex	Mineral	115	2	-20°C - 150°C -4°F - 302°F	Brown	**	*	*	-	***	*	-	-	***	*
perma SPEED PU 100-2 (SF141)	Polyurea	Mineral	128	2	-23°C - 198°C -10°F - 390°F	Blue	***	*	*	-	***	*	-	-	***	**
perma SPEED LX SYN 100-2 (SF152)	Lithium Complex	Synthetic	100	2	-40°C - 149°C -40°F - 300°F	White	**	***	***	-	***	*	-	*	***	**

perma LOAD LX 460-1 (SF181)	Lithium Complex	Mineral	460	1	-18°C - 140°C 0°F - 284°F	Amber	-	-	-	***	-	***	***	***	-	***
perma LOAD LX 460-2 (SF191)	Lithium Complex	Mineral	460	2	-18°C - 140°C 0°F - 284°F	Amber	-	-	-	***	-	***	***	***	-	***

perma FOOD AX SYN 150-1 (SF10)	Aluminium Complex	Synthetic	150	1	-45°C - 120°C -49°F - 248°F	Beige	-	**	**	**	*	**	**	**	*	***
perma FOOD CS SYN 220-1 (SF161)	Calcium Sulphonate	Synthetic	220	1	-40°C - 190°C -40°F - 375°F	Off White	-	**	**	**	*	**	**	**	*	***
perma FOOD CS SYN 220-2 (SF171)	Calcium Sulphonate	Synthetic	220	2	-40°C - 190°C -40°F - 375°F	Off White	-	**	**	**	*	**	**	**	*	***



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