NLGI HPM Specification						Laboratory Name ---> (2024 data)	Savant Labs Michigan	Intertek Farnborough	Clark Testing (latest data from 2021)	Petro-Lube Test Labs	Southwest Research Institute	Southern Petroleum Laboratories (SPL)
	Property	Test Conditions	Test method	Units	Min	Max	Lab capability: Y, Y* or N	Lab capability: Y, Y* or N	Lab capability: Y, Y* or N	Lab capability: Y, Y* or N	Lab capability: Y, Y* or N	Lab capability: Y, Y* or N
HPM Spec	Cone Penetration of Lubricating Grease	Worked 60 Strokes	ASTM D217	dmm	220	340	Y	Y	Y	Y	Y	Y
	Cone Penetration of Lubricating Grease	Prolonged worked penetration (Δ100k)	ASTM D217	dmm	- 30	+ 30	Y	Y	Y	Y	Y	Y
	Elastomer compatibility of Lubricating Greases and Fluids [using NBR standard reference elastomer per ISO 13226]	168 hours @ 125 °C	ASTM D4289	ΔHardness (Shore A points)	-15	+2	Y	N	Y	Y	N	Y
				Δ Volume percent	-5	+30	Y	N	Y	Y	N	Y
	Oxidation Stability of Lubricating Greases by the Oxygen Pressure Vessel Method	Pressure drop after 100hrs @ 100 °C	ASTM D942	kPa (psi)		35 (5.1)	Y	N	Y	Y	Y	Y
	Determining the Water Washout Characteristics of Lubricating Greases	60 minutes @ 79 °C	ASTM D1264	wt%		10	Y	Y	Y	Y	Y	Y
	Low Temperature Torque of Ball Bearing Grease	-20 °C	ASTM D1478				Y*	N	Y*	Y	N	Y
	Starting torque			mNm (g-cm)		1000 (10,200)	Y*	N	Y*	Y	N	Y
	Running torque @ 60 minutes			mNm (g-cm)		100 (1,020)	Y*	N	Y*	Y	N	Y
	Oil Separation from Lubricating Grease During Storage	24 hours @ 25 °C	ASTM D1742	wt%		5.0	Y*	N	Y*	Y	Y	Y
	Oil Separation from Lubricating Grease (Conical Sieve Method)	30 hours @ 100 °C	ASTM D6184	wt%		7.0	Y	Y	Y	Y	N	Y
	Roll Stability of Lubricating Grease [using 1/2 scale penetration]	2 hours @ Room Temperature	ASTM D1831	dmm	-10%	+10%	Y*	Y	Y	Y	N	Y
	Wear Preventive Characteristics of Lubricating Grease (Four-Ball Method) Wear Scar Diameter	75 °C, 1200 rpm, 60 minutes	ASTM D2266	mm		0.60	Y	Y	Y	Y	Y	Y
	Measurement of Extreme-Pressure Properties of Lubricating Grease (Four-Ball Method), Weld point	1770 rpm @ 27 °C	ASTM D2596	kgf	250		Y	Y	Y	Y	Y	Y*
	Determining Corrosion Preventive Properties of Lubricating Greases	48 hours @ 52 °C	ASTM D1743	rating	Pass		Y*	N	Y*	Y	Y	Y
	Determination of Corrosion-Preventive Properties of Lubricating Greases Under Dynamic Wet Conditions (Emcor Test)	Distilled Water, 2 bearings	ASTM D6138	rating		0,1	Y*	Y*	Y*	Y	N	Y*
	Detection of Copper Corrosion from Lubricating Grease	24 hours @ 100 °C	ASTM D4048	rating		1B	Y	N	Y	Y	Y	Y
HPM + WR	Determining the Water Washout Characteristics of Lubricating Greases	60 minutes @ 79 °C	ASTMD1264	wt%		5.0	Y	Y	Y	Y	Y	Y
	Determining the Resistance of Lubricating Grease to Water Spray	5 minutes @ 38 °C	ASTM D4049	wt%		40	Y*	N	Y	Y	N	Y
	Roll Stability of Lubricating Grease in Presence of Water [using 1/2 scale penetration]	2 hours @ Room Temperature	ASTM D8022	dmm	-15%	+15%	Y*	N	Y*	Y	N	Y
HPM + CR	Corrosion-Preventive Properties of Lubricating Greases in Presence of Dilute Synthetic Sea Water Environments	10% Synthetic seawater (as in ASTM D665)	ASTM D5969	rating	Pass		Y*	Y	Y*	Y	N	Y
	Determination of Corrosion-Preventive Properties of Lubricating Greases Under Dynamic Wet Conditions (Emcor Test)	100% Synthetic seawater (as in ASTM D665)	ASTM D6138	rating		1 , 2	Y*	Y	Y*	Y	N	Y*
	Determination of Corrosion-Preventive Properties of Lubricating Greases Under Dynamic Wet Conditions (Emcor Test)	0.5 N solution (~ 3% NaCl solution)	ASTM D6138	rating		2 , 3	Y*	Y*	Y*	Y	N	Y*
HPM + HL	Wear Preventive Characteristics of Lubricating Grease (Four-Ball Method) Wear Scar Diameter	75 °C, 1200 rpm, 60 minutes	ASTM D2266	mm		0.50	Y	Y	Y	Y	Y	Y
	Measurement of Extreme-Pressure Properties of Lubricating Grease (Four-Ball Method), Weld point	1770 rpm @ 27 °C	ASTM D2596	kgf	400		Y	Y	Y	Y	Y	Y*
	Determining Extreme Pressure Properties of Lubricating Greases Using a High-Frequency, Linear-Oscillation (SRV) Test Machine, Pass Load	(Procedure B at 80 °C)	ASTM D5706	N	800		Y	Y (ISO 17025-2017)	Y*	N	Y	N
	Fretting Wear Protection by Lubricating Greases	Average of 2 runs, 22 hours @ Room Temperature	ASTM D4170	mg		5.0	Y*	Y*	Y*	Y	N	Y
	Determining Fretting Wear Resistance of Lubricating Greases Under High Hertzian Contact Pressures Using a High-Frequency, Linear-Oscillation (SRV) Test Machine	50 °C, 100N, 0.300mm, 4 hours	ASTM D7594	mm		0.500	Y	Y (ISO 17025-2017)	Y*	N	Y	N
HPM + LT	Low Temperature Torque of Ball Bearing Grease	-30 °C	ASTM D1478				Y*	N	Y*	Y	N	Y
	Starting torque			mNm (g-cm)		1000 (10,200)	Y*	N	Y*	Y	N	Y
	Running torque @ 60 minutes			mNm (g-cm)		100 (1,020)	Y*	N	Y*	Y	N	Y
	Grease Mobility	-20 °C	US Steel	g/min	10		Y*	N	Y up to 8 temps	Y	N	Y*
	Determination of flow pressure of lubricating greases according to Kesternich method	-30 °C	DIN 51805	mbar		1400	Y*	N	Y*	Y	N	Y*

Y* means the lab outsources this testing