



## H1 Quinplex® Food Machinery Lubricant (4025-4022)

### *Semi-Synthetic Grease Protects Against Moisture & Other Harsh Conditions at Food Manufacturing Plants*

H1 Quinplex® Food Machinery Lubricant (4025-4022) is a semi-synthetic grease suitable for a broad operating temperature range. In addition to being a food grade grease – NSF H1 registered for incidental food contact – it is also robust enough to withstand moisture, high temperatures, extreme pressures and other harsh conditions found at food manufacturing plants. It features an aluminum complex thickener base, providing extreme water resistance, excellent mechanical stability, reversibility and tackiness. Key additives include Quinplex, LE's proprietary impact-resistant additive, and a rust and oxidation inhibitor. Switching to H1 Quinplex Food Machinery Lubricant results in longer bearing life, fewer equipment repairs, less downtime and lower lubricant consumption.



### **Beneficial Qualities**

#### **Food Grade**

- Formulated with high-viscosity pure food grade base oil
- Registered NSF H1 for incidental food contact
- Certified Kosher Pareve
- Certified Halal by IFANCA

#### **Water Resistant**

- Will not wash out or emulsify when coming in contact with water
- Stays in contact zone, even in high-moisture environments
  - o Won't wash out of bearings
- Protects against rust and corrosion

#### **Temperature Resistant**

- Performs well in a broad temperature range
- Provides excellent service at moderately high temperatures
- Will not melt or run from bearings

#### **Extreme Pressure & Wear Resistant**

- Superior EP load-carrying capability
- Exceptional anti-wear protection
- Clings tenaciously to metal, resisting repeated impact
  - o Won't pound out or sling off
- Exhibits long-lasting mechanical stability, does not change consistency after being worked thousands of times

#### **Available Grades**

- NLGI 2 (4025) – also available as an aerosol spray
- NLGI 1 (4024)
- NLGI 0 (4023)
- NLGI 00 (4022)

### **Proprietary Additive**

LE's proprietary additives are used exclusively in LE lubricants. H1 Quinplex® Food Machinery Lubricant contains Quinplex.

**Quinplex®** impact-resistant additive contributes to outstanding water resistance, tackiness and enhanced mechanical stability, and helps to form a barrier against corrosion.

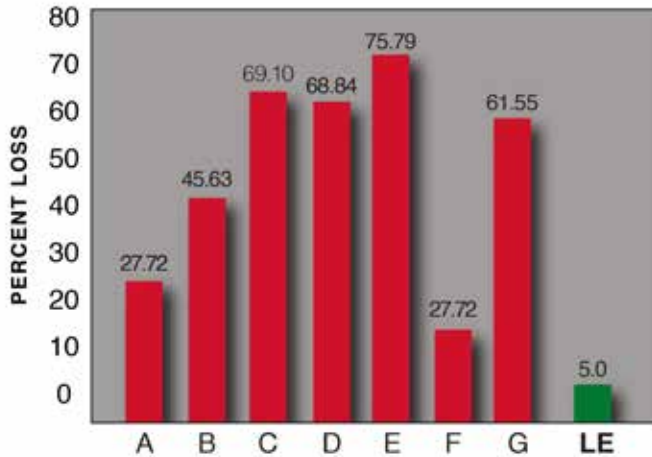


# LE vs. Competitive Food Grade Lubes

LE | H1 Quinplex 4025

A-G | Competitive NLGI 2 Greases

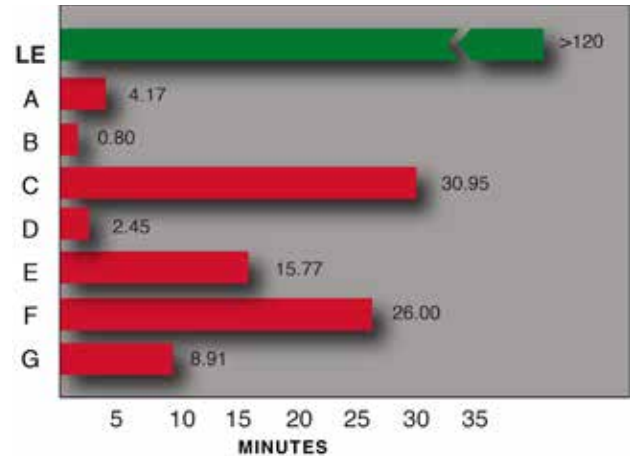
## Water Resistance



### Water Spray-off, ASTM D4049

The significantly lower percent loss in the Water Spray-off test proves that the LE grease outperforms the competitors in resisting water, staying in place rather than washing off.

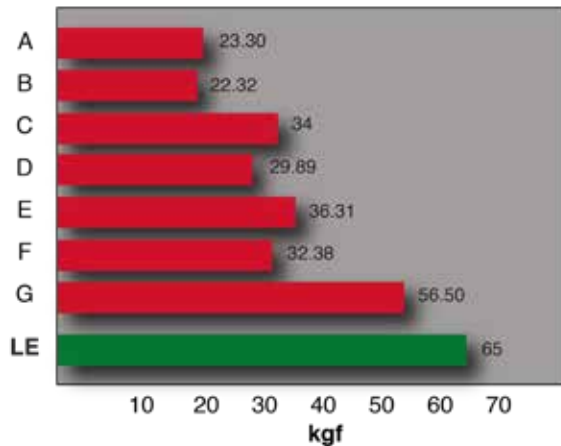
## Temperature Resistance



### Oxidation by PDSC, ASTM D5483

The minutes to onset of oxidation of the LE grease is four times that of the nearest competitor tested, indicating its ability to resist heat.

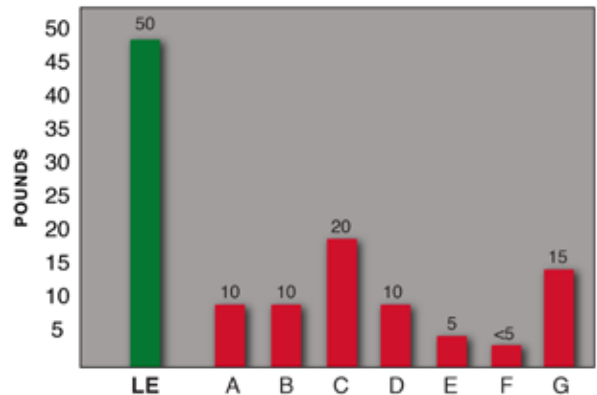
## Wear Resistance



### Four-Ball EP Load Wear Index, ASTM D2596

This test is a measure of a lubricant's ability to carry a load and minimize wear. The higher the value, the better the job the lubricant does. The LE grease outperforms all of the competitive greases tested.

## Extreme Pressure Performance



### Timken OK Load, ASTM D2509

The higher Timken load carried shows that The LE grease has superior EP load-carrying capability over the competitive greases tested.

# H1 Quinplex® Food Machinery Lubricant



## Typical Applications

- Blenders
- Bottle Washers
- Cams
- Carbonators
- Conveyors
- Cookers
- Crowners
- De-hairing Machines
- Dividers
- Electric Motors
- Extractors
- Feather Pickers
- Filling Machines
- Food Carts
- Knives
- Labelers
- Mixers
- Molders
- O-Rings
- Packaging Machines
- Proofers
- Saws
- Sifters
- Slicers
- Slides
- Wrappers





## H1 Quinplex® Food Machinery Lubricant

	<u>4025*</u>	<u>4024</u>	<u>4023</u>	<u>4022</u>
<b>Thickener Type</b>	Aluminum complex	Aluminum complex	Aluminum complex	Aluminum complex
<b>Texture</b>	Smooth Tacky	Smooth Tacky	Smooth Tacky	Smooth Tacky
<b>Color</b>	White	White	White	White
<b>NLGI Grade</b>	2	1	0	00
<b>Worked 60 Penetration ASTM D217</b>	287	322	367	409
<b>Dropping Point °C (°F), ASTM D2265</b>	256 (493)	232 (450)	214 (417)	--
<b>Base Fluid Characteristics</b>				
<b>Flash Point °C (°F) (COC), ASTM D92</b>	216 (421)	216 (421)	216 (421)	216 (421)
<b>Viscosity @ 100°C, cSt, ASTM D445</b>	8.4	8.4	8.4	8.4
<b>Viscosity @ 40°C, cSt, ASTM D445</b>	69.1	69.1	69.1	69.1
<b>Pour Point °C (°F), ASTM D97</b>	-30 (-22)	-30 (-22)	-30 (-22)	-30 (-22)
<b>Oxidation drop in psi @ 100 hrs, ASTM D942</b>	5	5	5	5
<b>Oxidation by PDSC minutes @ 155°C, ASTM D5483</b>	>120	>120	>120	>120
<b>Corrosion Prevention DI H2O, ASTM D1743</b>	Pass	Pass	Pass	Pass
<b>Oil Separation 30 hrs @ 100°C, % bleed, ASTM D6184</b>	2	8	10	--
<b>Timken OK Load lbs, ASTM D2509</b>	50	40	40	40
<b>Four-Ball EP Weld Point kgf, ASTM D2596</b>	400	400	400	400
<b>Four-Ball EP Load Wear Index kgf, ASTM D2596</b>	65	65	65	65
<b>SRV-EP 50°C, 1 mm stroke, 50 Hz frequency, ball on disc, max load w/o seizure, N, ASTM D5706</b>	1,200	1,200	1,200	1,200
<b>Four-Ball Wear @ 75°C, 1,200 rpm, 40 kgf, 60 minutes, mm wear, ASTM D2266</b>	0.39	0.48	0.49	0.47
<b>Water Spray-off % loss, ASTM D4049</b>	5	--	--	--

\*An aerosol version of 4025 offers the same physical characteristics as the non-aerosol version of 4025 once in service. These aerosol spray cans, which contain no chlorofluorocarbons, offer a convenient alternative method of application in areas where other methods of relubrication are difficult.

### Performance Requirements Met or Exceeded

- NSF H1 registered for incidental food contact
- Halal (certified by IFANCA)
- Kosher Pareve
- 4025 & 4024: Ex-Cell-O Corp-Pure-Pak Machine
- 4025: General Mills - A Lubricant

### Recommendations

Number	NLGI Grade	Maximum Bearing Speed (rpm)	Operating Temperature
4025	2	3,000	-1 to 204°C (30 to 400°F)
4024	1	6,000	-18 to 177°C (0 to 350°F)
4023	0	6,000	-26 to 149°C (-15 to 300°F)
4022	00	6,000	-26 to 149°C (-15 to 300°F)

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