

### RAILMASTER® WHEEL/RAIL LUBRICANT

Whitmore's Railmaster® wheel/rail lubricant is specifically designed to effectively decrease friction on wheel/rail contact interfaces and reduce energy and wear related costs. All grades have been formulated for ease of operation in all types of application systems. It is available in four different grades, including an NLGI 0 grade that can be pumped at -45°F (-43°C).

#### TEMPERATURE RANGES:

The following table is intended as a guideline. Differences in pumping equipment and other local conditions may come into play, making it necessary to deviate from the figures given below.

Wayside Lubricators:

Fahrenheit	NLGI Grade	Celsius
+10°F and below	0 Grade	-12°C and below
+11°F to +40°F	1 Winter Grade	-12°C to +5°C
+41°F to +60°F	1 Summer Grade	+5 to +16°C
+61°F and above	2 Grade	+16°C and above

Hi-Rail Units:

Fahrenheit	NLGI Grade	Celsius
+20°F and below	0 Grade	-7°C and below
+21°F to +45°F	1 Winter Grade	-6°C to +7°C
+46°F to +70°F	1 Summer Grade	+8 to +21°C
+71°F and above	2 Grade	+22°C and above

#### BENEFITS:

- **REDUCES FRICTION AND WEAR** - extends wheel/rail life and reduces energy cost.
- **WATER RESISTANT** - allows longer service life, resists washing off of rail and adheres to wet rails, which means less frequent reapplication and enhances ability to maintain application schedules in adverse conditions.
- **ADHESIVE AND COHESIVE** - resists pound-out and squeeze-out while enhancing track carry-down and minimizing migration to top of rail.
- **EASY TO APPLY** - compatible with automated railroad lubrication systems.

#### APPLICATIONS:

Railmaster® can be used in either hi-rail or wayside lubrication systems. It is available in pails, kegs, drums, and totes. It is also available through a custom-tailored bulk lubricant system and service program, Maintainer™. This program is designed to fit your operation and is structured to provide a complete lubricant management program that meets your needs.

ASTM #		TYPICAL CHARACTERISTICS			
	<b>NLGI Grade</b>	0	1W: Winter	1S: Summer	2
<b>D-217</b>	<b>Cone Penetration (Worked)</b>	365-395	325-355	310-340	265-295
<b>D-2265</b>	<b>Dropping Point, °F (°C)</b>	475 (246)	470 (243)	470 (243)	>500 (>260)
<b>D-445</b>	<b>Kinematic Viscosity (Base Oil with Polymer)</b>				
	cSt @ 40°C	30	84	84	179
	cSt @ 100°C	4.4	8.5	8.5	12.9
<b>Gardner Method</b>	<b>Density, lb/gal @ 60°F (15.5°C)</b>	7.73	7.60	7.61	7.89
<b>Method</b>	<b>Specific Gravity, g/cc @ 60°F (15.5°C)</b>	0.928	0.912	0.914	0.947
<b>D-2596</b>	<b>Four Ball EP, Weld Point, kg</b>	315	315	315	315
<b>D-4049 (Modified)</b>	<b>Water Spray-Off, % Loss</b>	N/A	15	10.8	9.5
	12 psi @ 77°F (25°C) @ 30 min.				
<b>D-1743</b>	<b>Rust Test</b>	Pass	Pass	Pass	Pass
<b>D-4048 (Modified)</b>	<b>Copper Strip Corrosion for Greases</b>	1B	1B	1B	1B
	212°F (100°C) @ 3 hrs				
	<b>Thickener Type</b>	Aluminum Complex	Aluminum Complex	Aluminum Complex	Aluminum Complex
<b>OEM Standard</b>	<b>Low Temperature Pumpability</b>				
	Lincoln Ventmeter @ 400 psi, °F (°C)	-45 (-43)	-18 (-28)	-12 (-24)	25 (-4)
	Farval @ 2,000 psi, °F (°C)	-60 (-51)	-42 (-41)	-27 (-33)	15 (-9)
	<b>Solid Lubricants</b>	Yes	Yes	Yes	Yes

The above are average values. Minor variations which do not affect product performance are to be expected in normal manufacturing.

#### PACKAGING

Shuttle Tanks	Drums	Kegs	Kegs w/Liners	Pails w/Liners
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#### THE WHITMORE MANUFACTURING COMPANY

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Performance Under Pressure Since 1893

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