



Pinnacle[®] WM

High performance synthetic industrial gear lubricants

Product description

Pinnacle WM are high performance industrial gear lubricants, manufactured with synthetic base stocks combined with a sulphur-phosphorus extreme pressure additive formulation. Pinnacle WM is available in ISO viscosity grades ranging from 220 through 460.

Pinnacle WM is designed to contribute high performance micro-pitting and wear protection in enclosed industrial gears operating under heavy or shock conditions. This product offers good foam resistance and water separation performance and is suitable for use in circulating systems where incidental water contamination is possible.

Customer benefits

- Extreme pressure formulation contributes to wear and micro-pitting protection
- Robust oxidation and thermal stability offers long lubricant service life performance
- Formulated to help maintain critical rust and corrosion resistance
- Non-corrosive against gear and bearing materials such as steel, copper, bronze, babbitt or cadmium-nickel
- Assists foam suppression and rapid water separation
- Wide ambient operating temperature range due to high viscosity index and low pour point
- Contributes lower viscous drag losses at low operating temperatures compared to conventional industrial gear oils

Product highlights

- **Extreme pressure formulation assists wear and micro-pitting protection**
- **Formulated to offer long service life**
- **Helps protect against rust and corrosion**
- **Non-corrosive against steel, copper, bronze, babbitt, cadmium-nickel**
- **Assists foam suppression, water separation**

Selected specification standards include:

AGMA	ARBURG
Cincinnati Machine	David Brown
DIN	ISO
MAG Cincinnati	Moventas
US Steel	Valmet

Applications

- Pinnacle WM is Chevron's primary recommendation for the lubrication of industrial gear systems. Pinnacle WM is recommended for the lubrication of heavily loaded enclosed industrial gear drives and reducers, spur, bevel, helical, worm and industrial hypoid gear cases, open pit and underground mining equipment, cement mills, ball mills, rolling mills, crushers, shakers, hoists, conveyors, kilns, winches, machine tools, skip lines and marine equipment
- Pinnacle WM 320 is suitable for wind turbine applications

Approvals, performance and recommendations

Approvals

- Pinnacle WM 320 is approved by Moventas.
- Pinnacle WM 220 is approved by ARBURG, a manufacturer of injection moulding machines for plastics and relevant additional equipment.

Performance

Pinnacle WM meets:

- US Steel 224
- AGMA 9005-E02
- DIN 51517/3
- David Brown ET 33/80
- MAG Cincinnati (for appropriate viscosity grades)
- Cincinnati Machine (for appropriate viscosity grades)
- Valmet
- ISO 12925-1

Disclaimer Chevron accepts no liability for any loss or damage suffered as a result of using this product for any application other than applications specifically stated in any Product Data Sheets.

Health, safety, storage and environmental Based on current available information, this product is not expected to produce adverse effects on health when used for the intended application and in accordance with the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your local sales office, or via the Internet. This product should not be used for purposes other than its intended use. When disposing of used product, take care to protect the environment and follow local legislation.

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Typical test data				
Test	Test methods	Results		
Viscosity Grade		220	320	460
Product Code		040228	033477.1	040229
Visc. Kinematic at 40°C	ISO 3104	220	320	460
Visc. Kinematic at 100°C	ISO 3104	25.8	35.43	47.22
Visc. Index	ISO 2909	150	156	160
Flash Point, °C	ISO 2592	232	240	246
Pour point, °C	ISO 3016	-48	-48	-42
Density, 15°C, Kg/l	ASTM D1298	0.853	0.856	0.855
Foam Seq. II, IAB ml	ISO 6247	50	50	50
Foam Seq. II, AFT 10 ST ml	ISO 6247	0	0	0
Demulsion, Char 40-40, 82°C, min	ASTM D1401	7	8	20
Rust – seawater	ASTM D0665B	Pass	Pass	Pass
Four Ball Scar Diam (mm), 1hr at 20 Kg	ASTM D 2266	0.3	0.3	0.3
FZG Damaged Load, A/16.6/90	DIN 51354	>12	>12	>12
FZG Micro Pitting FVA I-IV	FVA I-IV			
- Damage Load stage		>10	>10	>10
- GFT Classification		High	High	High

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This supersedes all previous editions and information contained in them.

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