



## Gulf Way

*Superior quality machine tool slideway lubricants*

### Product Description

**Gulf Way** series are superior quality lubricants specially developed to meet the requirements of modern high production machine tool slideways. These oils are formulated from high quality base stocks and select additives to provide excellent anti-wear and EP characteristics, low frictional properties, adhesiveness filterability and water separating capabilities. These oils offer superior protection against oil degradation and corrosion of machine tool surfaces even in presence of aqueous cutting fluids. They are specially developed to reduce the "stick-slip" problems with slow moving and heavily loaded machine tool slides and lead to improved surface finish and dimensional accuracy of workpieces. These oils exceed the performance requirements of the FIVES CINCINNATI (Former MAG IAS, LLC) specifications P-47 (ISO VG 68), P-50 (ISO VG 220), and P-53 (ISO VG 32).

### Features & Benefits

- Low frictional properties reduce chatter and stick-slip of slides and ways and lead to improved surface finish and dimensional accuracy of workpieces
- Excellent demulsibility provides ready separation from soluble cutting fluids and leads to prolonged coolant life and reduced cost of replacement and disposal
- Superior metal wetting properties and adhesiveness resist wash-off from critical surfaces and protect from attack of high pH coolants
- Good filterability provides easy circulation through filters and reduces stick-slip, chatter and wear
- Excellent anti-wear performance provides high levels of protection for gears, bearings and slides
- Effective rust and corrosion inhibitors provide enhanced protection of machine tool slides even in presence of aqueous cutting fluids
- Good thermal and oxidative stability keeps sliding surfaces clean and resists oil degradation thereby increasing its service life

### Applications

- Slides and ways of lathes, shapers, grinders and milling machines
- Gulf Way 32 and 68 are suitable for horizontal slides and ways on small to medium size machine tools
- Gulf Way 220 is recommended for large machines where way pressures are high and also for vertical and inclined slides and ways.

### Specifications, Approvals & Typical Properties

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Properties mentioned are typical only and minor variations, which do not affect product performance, are expected to arise in normal manufacturing processes. Please follow equipment manufacturer's recommendations for performance level and viscosity grade. The Safety Data Sheet for this product is available from your nearest Gulf Distributor. Please consult our local representative if any further information is required.

The information contained herein is believed to be correct at the time of publication and may be subject to modification from time to time. It is the user's responsibility to verify that this data sheet is current prior to using the product. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of products. Gulf Oil International reserves the right to modify and change its products and specifications without prior notice.

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|                                                         |                    |                    |       |       |
|---------------------------------------------------------|--------------------|--------------------|-------|-------|
| ISO Viscosity grades                                    |                    | 32                 | 68    | 220   |
| <b>Meets the following Specifications</b>               |                    |                    |       |       |
| GM LS-2                                                 |                    | X                  | X     | X     |
| FIVES CINCINNATI (Former MAG IAS, LLC)                  |                    | P-53               | P-47  | P-50  |
| <b>Typical Properties</b>                               |                    |                    |       |       |
| <b>Test Parameters</b>                                  | <b>ASTM Method</b> | <b>Test Values</b> |       |       |
| Viscosity @ 40 °C, cSt                                  | D 445              | 31.5               | 68.4  | 225.4 |
| Viscosity Index                                         | D 2270             | 100                | 99    | 96    |
| Flash Point, °C                                         | D 92               | 220                | 234   | 258   |
| Pour Point, °C                                          | D 97               | -21                | -15   | -9    |
| Density @ 15°C, Kg/l                                    | D 1298             | 0.87               | 0.881 | 0.894 |
| Rust Test                                               | D 665A/B           | Pass               | Pass  | Pass  |
| Copper Corrosion                                        | D 130              | 1b                 | 1b    | 1b    |
| Stick-Slip, Ratio                                       | CM                 | 0.79               | 0.75  | 0.72  |
| Thermal Stability                                       | CM – Procedure B   | Pass               | Pass  | Pass  |
| Acid Number, mg KOH/g                                   | D 974              | 0.06               | 0.06  | 0.08  |
| Emulsion Test<br>30 minutes max                         | @ 54 oC            | D 1401             | Pass  | -     |
|                                                         | @ 82 oC            |                    | -     | Pass  |
| Four Ball Wear, Scar<br>20 kg, 1800 rpm, 1 hr, 54°C, mm | D 4172             | 0.37               | 0.29  | 0.26  |
| Timken EP OK load, lb                                   | D 2782             | 40                 | 45    | 60    |

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