

# Balmerol® Synthgear MR Series

## Fully Synthetic Anti-micropitting Gear / Circulating Oil

Technical Data Sheet

### Product Description:

Balmerol Synthgear MR Series is fully synthetic industrial gear / circulating oil developed for maximum protection of gears and bearings operating under severe conditions and extremes of application temperature. Balmerol Synthgear MR Series is fortified with Anti-micropitting additives and its selective additive system provides protection against scuffing wear and micropitting due to fatigue. The high viscosity index of these products ensure optimum viscosity both at high and low temperatures, which not only provide wider operating temperature range but also ensures equipment protection at extreme temperatures by providing sufficient oil film.

Balmerol Synthgear MR Series **meets** the following specifications:

- DIN 51517 Part 3 , CLP
- Siemens (Flender)
- David Brown
- AGMA 9005-E02
- U.S. STEEL 224

### Features & Benefits:

Protection against micropitting as well as scuffing wear	Excellent protection of gears and bearings at extreme conditions. Meets various OEM requirements
High Viscosity Index	Optimum viscosity / film thickness at operating temperatures. Better equipment protection both at low & high temperatures Wider operating temperature range
Excellent Oxidation & Thermal Stability	Longer Oil Drain Interval, lower oil consumption Better equipment performance, cleaner operation
High load carrying characteristics	Better protection of equipment under heavy / shock loads
Very good Rust & Corrosion protection	Better protection of bearings, lower maintenance cost

### Applications / Recommendations:

Balmerol Synthgear MR Series is recommended for use in industrial gears and bearings operating under extreme conditions – temperature, pressure, shock loads etc. Balmerol Synthgear MR Series is compatible with metallic materials as well as elastomeric seals.

Balmerol Synthgear MR 320/ 460 are suitable for use in wind turbine gearboxes.

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### Typical Properties:

Balmerol Synthgear MR							
Properties	Synthgear MR 68	Synthgear MR 100	Synthgear MR 150	Synthgear MR 220	Synthgear MR 320	Synthgear MR 460	Synthgear MR 680
ISO VG Grade	68	100	150	220	320	460	680
Base Oil	PAO	PAO	PAO	PAO	PAO	PAO	PAO
Viscosity, ASTM D 445							
cst @ 40°C	68	100	150	220	322	440	677
cst @ 100°C	10.3	13.9	18.6	26.0	34.5	43.2	60.1
Viscosity Index, ASTM D 2270	137	140	140	150	150	150	155
Pour Point, °C ASTM D 97	-42	-39	-36	-36	-30	-30	-27
Flash Point, °C ASTM D 92	230	230	230	230	232	236	244
FZG Test (A/8.3/90), Fail Stage, DIN 51354	11	12	13	13+	13+	13+	13+
FZG Micropitting Damage (FVA 54), Load Stage/ Endurance Test, GFT Class	-	-	10/ High	10/High	10/High	10/High	10/High
FAG FE8, DIN 51819 - 3							
a) Weight Loss, Rollers, mg	-	-	5	5	5	5	5
b) Weight Loss, Cage, mg	-	-	30	30	30	30	30
Four Ball Wear Test, wear min, ASTM D 4172/B	0.4	0.4	0.35	0.35	0.35	0.35	0.35
Four Ball EP Test (Weld Point), Kg, ASTM D 2596	250	250	250	250	250	250	250
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100°C	1	1	1	1	1	1	1
Foam Sequence, ASTM D 892							
Sequence I	10/0	10/0	10/0	10/0	10/0	10/0	10/0
Sequence II	20/0	20/0	20/0	20/0	20/0	20/0	20/0
Sequence III	10/0	10/0	10/0	10/0	10/0	10/0	10/0

#### Health and Safety:

Balmerol Synthgear MR Series oils are not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. For MSDS please contact your local Balmer Lawrie Marketing / Technical Service team.

For Further Information, contact:

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