

# Balmerol® Protomac H SPL Series

## High Viscosity Index Hydraulic Oil

Technical Data Sheet

### Product Description:

Balmerol Protomac H SPL Series are superior quality High Viscosity Index hydraulic oils, meant for modern hydraulic systems requiring high shear stability and operating at extreme temperatures. Balmerol Protomac H SPL Series oils are formulated with special quality high viscosity index improver and synergistic additives for imparting anti-wear, anti-corrosion, oxidation inhibition and anti-foam properties. It meets IS: 11656-1986 (Reaffirmed) and IS: 10522-1983 (Reaffirmed 2004) Specifications.

### Features & Benefits:

High Viscosity Index	Can operate at wider range of temperatures. Better equipment protection both at very low & high temperature
Superior oxidation & thermal stability	Ensuring longer service life of fluid under severe operating conditions
Low deposit forming tendency	Components remain clean during operation, lesser clogging of filters, control valves etc.
Better Anti-wear properties	Reduction in wear of components like pumps, valves etc leading to higher equipment reliability
Very good Rust protection & Demulsibility characteristics	Easily sheds off water from the oil and ensures better component protection

Balmerol Protomac H SPL Series helps reduce overall maintenance and operating costs, which helps increase "Productivity".

### Applications / Recommendations:

Balmerol Protomac H SPL Series oils are recommended for all types of modern hydraulic system used in mining, off-highway and industrial applications, where equipment is subjected to high shear and severe operating conditions. Balmerol Protomac H SPL Series oils are also recommended for Tata Hitachi, L&T Komatsu, Poclain and other such equipments.

For best performance, contamination of Balmerol Protomac H SPL Series oils with other lubricants, especially detergent based engine oils should be avoided.

Balmerol Protomac H SPL Series fully confirms to DIN 51524 Part 3 (HVLP) specifications.

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## Typical Properties:

Balmerol Protomac H SPL Series				
Properties	Protomac H 32 SPL	Protomac H 46 SPL	Protomac H 68 SPL	Protomac H 100 SPL
ISO VG Grade	32	46	68	100
Viscosity, ASTM D 445 cst @ 40°C	32	46	68	107
Viscosity Index, ASTM D 2270	145	145	145	135
Pour Point, °C ASTM D 97	-39	-36	-30	-27
Flash Point, °C ASTM D 92	210	210	210	236
Specific Gravity, ASTM D 1298	0.864	0.865	0.869	0.876
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100°C	1a	1a	1a	1a
Rust Characteristics, ASTM D665				
ASTM D 665/A	Pass	Pass	Pass	Pass
ASTM D 665/B	Pass	Pass	Pass	Pass
FZG Test (A/8.3/90), Fail Stage, DIN 51354	12	12	12	12
Foam Sequence, ASTM D 892 (volume of foam after 10 minute settling time)				
Sequence I	Nil	Nil	Nil	Nil
Sequence II	Nil	Nil	Nil	Nil
Sequence III	Nil	Nil	Nil	Nil
Neutralization No, TAN mg KOH/ gm	0.4	0.4	0.4	0.4
Air release value, ASTM D 3427	5	7	7	10
Demulsibility, ASTM D 1401 (40 - 37 - 3) minutes	11	15	15	20

## Health and Safety:

Balmerol Protomac H SPL 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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