



## Molub-Alloy 777 ES

High performance grease

### Description

Castrol Molub-Alloy™ 777 ES greases are designed for very heavy duty service in extreme environments.

They are blended and compounded to withstand heavy and shock loading, commonly found in the steel/primary metals, construction, mining, and forest products industries.

Molub-Alloy 777 ES greases are made using a blend of high quality petroleum oils, polymers and Molub-Alloy lubricating solids. These lubricating solids work synergistically with chemical anti-wear and extreme pressure (EP) additives to reduce contact temperatures and wear while providing outstanding protection under extreme pressure and shock load conditions.

Rust and oxidation inhibiting characteristics are maximised to afford effective rust protection and long life of the grease.

### Application

Molub-Alloy 777 ES are multi-purpose greases that operate effectively in plain/journal and anti-friction bearings. They exhibit excellent adhesive and cohesive characteristics and are highly resistant to mechanical shearing.

Typical applications include ball and roller bearings, bushings, slides, screws, and general lubrication where loads may be heavy and speeds low. Industries most commonly requiring the heavy duty, all weather capabilities of Molub-Alloy 777 ES greases include steel, mining, logging, chemical, and construction.

Molub-Alloy 777 ES 1 and 2 meet the specification of Bucyrus International (CAT) and Komatsu greases. (with lubricating solids <5% by weight and <10 µm max particle size).

### Advantages

- Excellent friction reduction characteristics due to Molub-Alloy solid lubricants – easier start-up, reduced heat, and reduced energy leading to longer bearing life
- Excellent mechanical stability → grease keeps its consistency in service ensuring long term protection
- Easily pumpable in central lubrication systems
- Excellent water resistance – coating film stays on the surface even in the presence of water
- Provides protection against copper and steel corrosion
- Excellent EP and anti-wear properties – protects equipment against extreme/shock loading and helps minimise bearing components wear and hence extends equipment life

## Typical Characteristics

Name	Method	Units	777-1 ES	777-2 ES
Appearance	Visual	-	Smooth and homogeneous	Smooth and homogeneous
Colour	Visual	-	dark grey	dark grey
Thickener type	-	-	Lithium	Lithium
Base oil type	-	-	Mineral	Mineral
Consistency	ISO 2137 / ASTM D217		1	2
Worked Penetration 60 strokes @ 25°C/77°F	ISO 2137 / ASTM D217	1/10 mm	310 - 340	265 - 295
Worked Penetration 100000 strokes @ 25°C/77°F change from 60 strokes	ISO 2137 / ASTM D217	1/10 mm	20	22
Density @ 20°C / 68°F	inhouse methode	kg/m <sup>3</sup>	0.881	0.883
Dropping point	ISO 2176 ASTM D2265	°C / °F	180+ / 356+	180+ / 356+
Base oil Viscosity @ 40°C / 104°F	ISO 3104 ASTM D 445	mm <sup>2</sup> /s	950	950
Base oil flash point	ISO 2592 ASTM D 92	°C / °F	230 / 417	230 / 417
Rust Test 48hrs @ 52°C / 162°F	ASTM D 1743	rating	pass	pass
Corrosion Protection (SKF Emcor)	ISO 11007 ASTM D 6138	rating	0/0	0/0
Copper Corrosion 24hrs 100°C/ 212°F	ISO 2160 ASTM D 4048	rating	1b	1b
Four ball weld load test	ASTM D 2596	Kg	620	620
Four ball Load wear index	ASTM D 2596	Kg	+100	+100
Four ball wear Test (1hrs, 40kg, 1200rpm, 75°C / 167°F) scar diameter	ASTM D 2266	mm	0.55	0.55
Four ball wear (1000N, 1 min) scar diameter	DIN 51350-E	mm	0.9	0.9
Timken EP test, OK load	ASTM D 2509 IP 326	Kg / Lbs	23/50	23/50
Water wash out @ 79°C / 175°F	ASTM D 1264	% loss	5.4	3.2
Water resistance, 90°C / 194°F, 3hrs	DIN 51807-1	rating	1	1
Roll stability, 2hrs, 25°C / 77°F, penetration change	ASTM D 1831	% change	10	5

Subject to usual manufacturing tolerances.

## Additional Information

In order to minimise potential incompatibilities when converting to a new grease, all previous lubricant should be removed as much as possible prior to operation. During initial operation, relubrication intervals should be monitored closely to ensure all previous lubricant is purged. Not to be used in precision and high speed bearings.

Molub-Alloy 777 ES

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