



## DURALIFE® HEAVY DUTY EP CALCIUM SULFONATE COMPLEX GREASES HDCS For Marine Applications

**DURALIFE® HEAVY DUTY EP CALCIUM SULFONATE COMPLEX GREASES HDCS** are manufactured from high viscosity base oils and a select combination of polymer additives with Calcium Sulfonate complex thickener. They contain no heavy metals (lead, arsenic or antimony) or other environmentally harmful additives such as phosphorus, chlorine, sulfur, zinc, copper).

They are environmentally friendly performance, heavy duty greases and offer the additional advantage of superior adhesion to wet steel surfaces, resistance to water wash-off, and superior rust and corrosion protection even corrosive saltwater environments. Especially effective for inverted or high pH mud.

These products are specially designed to deliver outstanding performance in severe application areas: Marine, Mines, offshore and heavy duty off- highway equipment.

### APPLICATIONS :

**DURALIFE® HEAVY DUTY EP CALCIUM SULFONATE COMPLEX GREASES HDCS** are recommended for most marine applications such as bearings, wire ropes, open gears found usually in marine environments and suitable for automotive, mining, construction, steel mills, paper industry, concrete, cement, quarries, agriculture & forestry/loggings, oil fields and all other industrial applications such as wheel bearings, fifth wheel, steering systems, chassis, conveyors, anti-friction bearings, plain bearing, roller bearings, etc.

### BENEFITS :

- Excellent extreme pressure properties to provide additional protection against seizing and galling and load-carrying ability for equipment protection under heavy and shock loading.
- Excellent protection against corrosion.
- High resistance to sea water wash off.
- Minimize leakage from bearings and stay in place on high-speed machinery through outstanding adhesion properties under severe high temperature conditions.
- Environmentally responsible and help protect water stream.
- Long operational life at high temperature.

### TYPICAL CHARACTERISTICS :

Product Specifications	Typical Results	
	HDCS 1	HDCS 2
NLGI Grade	1	2
Thickener type	Calcium Sulfonate complex	Calcium Sulfonate complex
Texture	Smooth	Smooth
Dropping point , °C (°F) , ASTM D 2265	303(578)	303(578)
Timken OK Load, lbs , ASTM D 2509	50	65
Penetration @25 °C(77°F) , Worked (60 Strokes),0.1mm, ASTM D 217	310-340	265-295
4-Ball Wear ,mm , 1hr ,75 °C ,1200 rpm,40Kgf , ASTM D 2266	0.45	0.45
4-Ball EP , Load Wear Index (LWI) ,Kgf, ASTM D 2596	50	50
4- Ball EP , Weld point ,Kgf , ASTM D 2596	500	620
Rust Protection , ASTM D 1743	Pass	Pass
Copper Corrosion ,ASTM D 4048	1b	1b
Oil Separation ,wt%, 24 hrs, ASTM D 1742	0.40	0.40
Oxidation Stability @210 °F , psi Drop 100 hrs Max , ASTM D 942	2.0	2.0
Water Washout @ 175°F ,%wt loss, ASTM D 1264	1.8	1.3
Water Spray off, %, ASTM D 4049	< 20	< 10
Operating Temperature Ranges :		
Minimum, °C (°F)	-20(-4)	-20(-4)
Maximum Continuous Service, , °C (°F)	200 (392)	200 (392)

*The above characteristics are average values based on recent production .Minor variations  
which do not affect product performance are to be expected in normal manufacture .*

**WARNING!**

Contains petroleum distillates. Contact with skin or eyes can cause irritation. Avoid prolonged contact. Wash thoroughly after handling. Avoid breathing vapors . If irritation , headache or nausea occurs , remove to fresh air . Get medical attention if symptoms persists. If swallowed , do not induce vomiting. Consult physician immediately.

Keep away from children. Do not store above 120°F. Keep away from heat or flame.

*Reference MSDS Number 12053 database on our website at [www.amtecol.com](http://www.amtecol.com)*