

Technical Report

Science Road, Norwalk, CT 06852 - (203) 866-5551

Fax: (203) 866-0425 - Email: lad@kingindustries.com



K-CORR[®] G-1300 Series Rust Inhibitor Performance in Lithium 12-Hydroxystearate Grease

The **K-CORR G-1300 Series** consists of zinc-containing rust inhibitor systems that impart outstanding protection to lubricating greases exposed to extreme conditions. These products were specifically designed as alternatives to zinc naphthenates and provide exceptional rust protection when using synthetic sea water and 3% NaCl solution in the EMCOR rust test.

Tests	Formulations	--	K-CORR ZN-510*	K-CORR G-1340	K-CORR G-1350	K-CORR G-1360
Treat Level	--		1.50%			
Base Grease	Fully Formulated Lithium 12-OH Grease without Rust Inhibitor					
EMCOR (ASTM D6138) 1 week, 3% NaCl	4,4	1,1	0,0	0,0	0,0	1,1
Grease Water Stability (DIN 51 807 Part 1)						
3 hours, 40°C	0	0	0	0	0	0
3 hours, 90°C	1	1	1	1	1	1
Water Washout Resistance (ASTM D1264)						
% Loss, 100°F (38°C)	1.48	--	0.75	0.60	0.60	1.00
% Loss, 175°F (79°C)	0.90	--	0.82	0.90	0.90	0.97
PDSC (ASTM D5483) Onset Point, 180°C (min)	26	38	45	49	49	37
Norma Hoffman (ASTM D942) 100 hours, pressure drop (psi)	2	2	2	2	2	2
Copper Corrosion (ASTM D4048) 24 hours, 100°C	1b	3a	3a	3a	3a	2a/3a
Four Ball Weld (ASTM D2596 modified)*						
10 seconds, 25°C, 1800 rpm						
OK Load (kgf)	220	180	220	260	260	240
Weld Load (kgf)	240	200	240	280	280	260
Four Ball Wear (ASTM D2266) 1 hour, 75°C, 40kgf, 1200 rpm (mm)	0.65	0.44	0.52	0.54	0.54	0.49
Cone Penetration (ASTM D217)						
Unworked	247		262	240	240	255
60 Strokes	273	--	272	257	257	277
10,000 Strokes	283		280	261	261	285
Change from 60 to 10,000 Strokes	3.66%		2.99%	1.55%	1.55%	3.13%
Dropping Point (ASTM D2265) (°C)	194	188	183	191	191	191

* Zinc naphthenate (10% zinc)

* Four Ball Weld ran at 1800 rpm (ASTM) with 20 kg weight increments according to DIN 51 350.

(see reverse side)

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Because greases have performance requirements other than just rust protection, it is important to consider the effects of different types of additives on grease properties. In addition to imparting excellent rust protection, the **K-CORR G-1300 Series** has been formulated to enhance antiwear and antioxidation properties and to minimize adverse effects on other grease performance and physical properties.

The results shown reflect data generated by King Industries' Technical Service Laboratory. Actual results may vary depending on the thickener system, base oil, and test equipment design.

For Samples or Technical Service, contact King Industries or your King representative.

King Industries, Inc.
Science Road
Norwalk, CT 06852-0588
Tel: 203-866-5551
Fax: 203-866-0425
E-mail: LAD@kingindustries.com

King Industries International, Inc.
Science Park 402,
1098 XH Amsterdam
The Netherlands
Tel: +31-20-723-1970
E-mail: info@kingintl.nl

China Sales Office
Dalian Mingruida Technical Consulting Co., Ltd.
Building 51, 20 Shuxiang Street
Dalian, China
Tel: +86-15941108485
Email: Hui.Wang@kingindustries.com

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