

Technical Specification

LG100 Grease is a specialty lubricant designed for industrial equipment requiring both lubrication and corrosion protection. With a formulation that is a combination of naturally derived ingredients, the product can be easily applied via cartridge or similar means for simple and direct *in situ* use.

The ingredients in this unique grease provide multiple benefits. LG100 has natural corrosion inhibition properties resulting from woolgrease derivatives. The naturally occurring trace elements are the same found in many synthetically produced, specialty gear lubricants, specifically known for wear-protection metals: iron, zinc, magnesium, and phosphorus.

This product meets the criteria for approval for production and manufacturing environments where there may be incidental contact with food, therapeutic goods, or similar products, and that each of the ingredients is free from allergens, including pollen, nuts and grains.

The ingredients in this naturally derived grease are sourced from sustainable, agricultural resources.

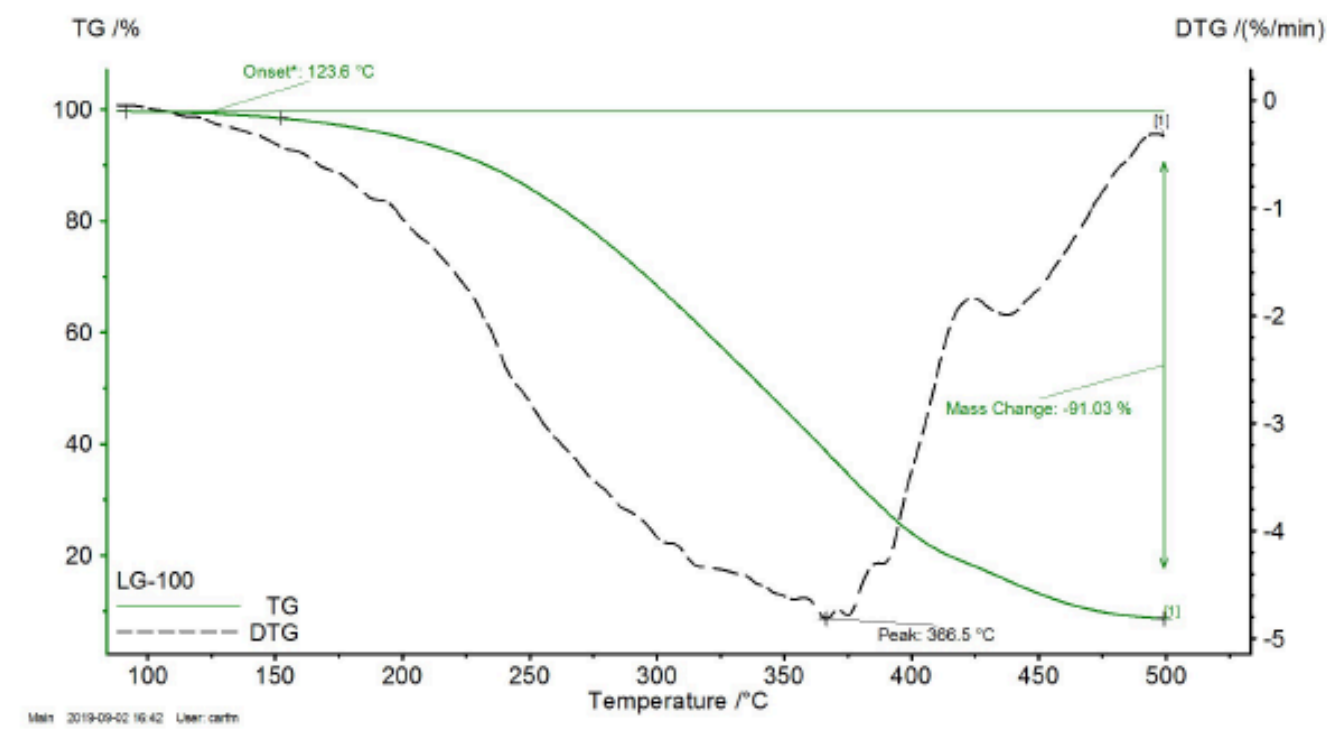
Characteristic	Test Method	Unit of Measurement	Specification	Typical Result
Appearance	ASTM D4176	N/A	Opaque	Free of particulates
Colour	Visual	N/A	Light brown	Brown, translucent
Relative Density	ASTM D4052	kg/m	0.90 – 0.95	0.92
Viscosity (@ 100°C)	ASTM D1200	cSt	35.0 – 50.0	40.0
Total Acid Number	ASTM D974	N/A	Report	12
Metals	ICP			
Iron		ppm	Report	303
Zinc		ppm	> 100	226
Calcium		ppm	> 10	45
Magnesium		ppm	Report	5
Phosphorus		ppm	Report	11
Aluminium		ppm	< 10	4
Sodium		%	Report	57
Sulfur		%	-	-
Ash		%	-	-
Water Content	Karl-Fisher	%	< 2 max.	0.84
Copper Corrosion	ASTM D130	N/A	1 max.	1a

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Optimum Operating Temperature: LG100 Grease

The oxidation behaviour of this grease has been determined by simultaneous thermal analysis: Differential Scanning Calorimetry (DSC) and Thermogravimetric Analysis (TGA), to confirm the optimum, recommended operating temperature, and determine the temperature at which the product ceases to function as an effective lubricant.

The study was conducted between temperatures 50°C and 500°C, then oxidation tests were performed to pinpoint the degradation of the grease from 100°C to 300°C, based on the information resulting from the DSC.



The heating and degradation of LG100 demonstrates that the product has a non-linear exothermic pyrolysis process, meaning that as the equipment to which the grease is applied is partially insulated from heating while the equipment is operating. In effect, the grease withstands incremental increases in temperature without degrading or oxidising and continues to protect the equipment throughout high temperature processing.

The results show that the product does not oxidise at all until around 140°C, and that sustained operation up to 200°C with this product would offer effective equipment protection at these temperatures.