CASSIDA

Can Seaming – Highest food safety with CASSIDA food grade lubricants

LUBRICANTS.
TECHNOLOGY.
PEOPLE.
FUCHS

LUBRITECH
Special Application Lubricants

LUBRICANTS. TECHNOLOGY. PEOPLE.

FUCHS LUBRITECH – Special Application Lubricants

Within the FUCHS Group, we at FUCHS LUBRITECH are the experts for highly specialized applications. We develop, produce and distribute our own world-leading branded products. Our employees are committed to solving your challenges. We are there, with you and for you.

LUBRITECH
Special Application Lubricants

Facts and Figures

Company: FUCHS LUBRITECH GmbH, part of the FUCHS Group, based in Kaiserslautern, Germany
LUBRITECH: the Special Application Division of the FUCHS Group
Product range: LUBRITECH GROUP offers a full range of more than 1,000 special products, including food grade lubricants, adhesive lubricants, lubricating fluids and greases, pastes, solid film lubricants, concrete release agents, aerosols and metal-forming lubricants
Certifications: ISO 9001: 2008, ISO 21469, Halal, Kosher

FUCHS has developed, produced and sold lubricants and related specialties for more than 80 years – for virtually all applications and sectors. With over 100,000 customers and 50 companies worldwide, the FUCHS Group is the world's leading independent lubricant supplier.

Within the FUCHS Group, **FUCHS LUBRITECH** is the expert for Special Application Lubricants. A team of more than 500 specialists around the world work to meet your needs. However demanding the application, we offer a specialised solution. Service is a crucial and fundamental component of our offering. Our experts offer on-site technical consultation to assure performance, efficiency and process reliability.

FUCHS LUBRITECH special application lubricants stand for highest performance and sustainability, safety and reliability, and efficiency and cost savings. They represent a promise: **technology that pays back.**

CASSIDA – FOOD GRADE LUBRICANTS

The CASSIDA product line of FUCHS LUBRITECH offers a comprehensive range of high-performance lubricants for the food and beverage industries, including fully synthetic as well as semi-synthetic and white-oil-based products. Each product's composition is always optimised to ensure maximum suitability for their respective application.

The Can Seamer brochure introduces our product portfolio and gives an overview of the wide range of CASSIDA products, including CASSIDA Fluids (fully synthetic), CASSIDA Greases (fully synthetic) and FM Lubricants (white-oil-based and semi-synthetic).

The food experts of the LUBRITECH team or your local sales partner will be happy to assist you in finding the best products for your application. You will receive individual, competent advice and recommendations for products that are best suited for fulfiling your particular requirements.

CASSIDA food grade lubricants – highest safety for can seaming processes

What is can seaming?

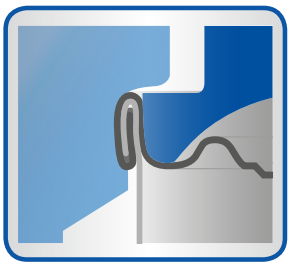
A can seamer is a machine used to seal the lid to the can body. Two-piece cans have only one seam around the top end. Three-piece cans have plain ends that are seamed to the can body on both ends to close. The seam formed is generally leak proof and is made by mechanically overlapping the two layers to form a hook. During the can seaming process, the seamer chuck holds the can while the rolls rotate around it. This can seaming process puts the highest requirements on the lubricants used. Our customers benefit from the excellent quality of the CASSIDA portfolio, which has been confirmed by numerous OEM approvals given by well-known manufacturers of can seaming equipment. Today, many can producers and can bottlers are minimizing the risk of their processes by switching to CASSIDA food grade lubricants as the safe alternative for all lubrication points in their production plants.

Double seaming process

A good double seam formed by the can seamer is essential for assuring that there is no product leakage or contamination. The double seaming method is usually used to seal metal containers. The seam is created in two operation steps.

First step
The can end which is lined with a sealing compound is crimped into place so that it forms the so-called "cover-hook" around the lip of the container body.

The final seam
The "cover-hook" and the enclosed lip of the container are folded down against the container and interlock around the "body-hook". Both hooks overlap to form a strong joint which acts as a hermetic seal.



Why is a food grade lubricant needed?

Greases and oils are used to lubricate the components of the seamer itself and cams, bearings, seals, shafts, gears, chains, seamer roller bearings, closed gearboxes. As the cans are open before seaming, excess grease and/or oil above the cans or possible oil mist around the open cans could contaminate the food or beverage in the can. Secondly there is also the possibility of an oil or grease contamination on the cans after it has been closed. In order to minimize the risk for the consumer a food grade lubricant should be used.

Due to continuously increasing local and global awareness of food safety, more and more OEMs as well as food & beverage producers are using food grade lubricants nowadays.

In general, the oil consumption of a can seamer with a total loss lubrication system can reach 8 to 9 litres per 24 hours of operation.
Some of this oil is flung off, and a small amount may remain in or on the can surface.

Main food grade lubricants to be used in a can seamer

CASSIDA FLUID GLE 150
for use in the oil lubrication system of Angelus can seamers equipped with a recirculation system.

CASSIDA FLUID GLE 220
is required for all enclosed gearboxes of PS Angelus can seamers, such as the Main Drive, the Can Inlet Drive and the Can Lid Inlet Drive.
It is used in the oil lubrication system of JBT FOODTECH can seamers, equipped with a recirculation system.

CASSIDA FLUID CR 100
for use in Ferrum can seamers, for lubrication of all components of the seamer including the seamer roller bearings.

FM GEAR OIL TLS 150
is specifically developed for Total Loss Systems.

CASSIDA GREASE RLS 1
is used for the lubrication of grease-lubricated can seamers. These machines normally do not have an oil lubrication system.

CASSIDA GREASE RLS 2 or EPS 2
to be used for the lubrication of the seamer roller bearings when using an automatic grease system.

CASSIDA GREASE RLS 0
is used for the lubrication of the seamer roller bearings when using an automatic grease system.

CASSIDA GREASE GTS 2
can be used for the lubrication of grease-lubricated can seamers.

Product Data Fluids

Product & Label	Type	ISO VG Grade	Pourpoint °C	Flashpoint °C	Application Temperature Range °C	Application
CASSIDA FLUID GLE 150	synthetic	150	-54	258	-45 to +140 (peak +150)	Lubrication of rotary can seaming machines, including both enclosed and total loss systems, and for circulating and bearing oil systems where contamination with water or food juices can occur.
CASSIDA FLUID GLE 220	synthetic	220	-48	270	-45 to +140 (peak +150)	
CASSIDA FLUID CR 100	synthetic	100	-54	258	-30 to +100 (peak +120)	Designed for use in Ferrum can seamers
FM GEAR OIL TLS 150	white mineral oil	150	-12	260	0 to +110 (peak +120)	Suitable for can seamer gearboxes running in total loss mode and on food handling and processing equipment.

Product Data Greases

Product & Label	Colour Code	Grease Colour	NLGI Grade	Thickener	Base Oil KV @ 40°c	Temperature Range	Application
CASSIDA GREASE RLS 1&2		White	1&2	Aluminium complex	150	-35°C to 120°C	Bearings - Rolling Element. Regular Load.
CASSIDA GREASE EPS 1&2		White	1&2	Aluminium complex	220	-35°C to 120°C (peak 140°C)	Bearings - Rolling Element. Extreme Pressure.
CASSIDA GREASE GTS 2		Beige	2	Calcium Sulphonate complex	85	-45°C to 170°C (peak 200°C)	Bearings - Rolling Element. Extreme Pressure. Water Resistant.

All NLGI 1 & 2 greases are also available in SR-cartridges to be used in the two-handed HD GREASE GUN CASSIDA using a colour coding system for easy identification. For final selection of the lubricants always check the manual of the machine manufacturer.

Lubrication Points

The information below shows different lubrication points in a can seamer. It helps to select the most suitable lubricant for each application and describes the main components to be lubricated.

Drive Chain

Every can seamer has a drive unit where an electric motor drives the main shaft of the seamer.

Directly belt-driven
Lubricants for bearings:
CASSIDA GREASE EPS 2, CASSIDA GREASE GTS 2

Indirectly by using a closed gear box
Lubricants for gears: CASSIDA FLUID GL 220 or GLE 220, FM GEAR OIL 220
Lubricants for worm gears: CASSIDA FLUID GL 460, CASSIDA FLUID WG 460

Internals

The components in the upper and lower turret like cams, bearings, seals, shafts, gears, chains, closed gearboxes.

Grease lubricated
Mostly used for FOOD cans, where 3-piece cans are affected.
Lubricants: CASSIDA GREASE RLS 1, CASSIDA GREASE GTS 2

Oil lubricated
Mostly used for BEVERAGE cans, where aluminium cans are affected
Lubricants: CASSIDA FLUID GLE 150 or GLE 220, or FM GEAR OIL TLS 150
Lubricant for Ferrum-type seamers only: CASSIDA FLUID CR 100

Seamer Roller Bearing

All can seamers have seamer roller bearings that needs to be lubricated.

Grease lubricated
3-piece cans for FOOD cans, where mostly steel bearings are in use
Lubricants: CASSIDA GREASE RLS 1, CASSIDA GREASE GTS 2
BEVERAGE cans, where mostly ceramic bearings are in use
Lubricants: CASSIDA GREASE RLS 2, CASSIDA GREASE EPS 2

Oil lubricated
Usually Ferrum has oil-lubricated seamer roller bearings
CASSIDA FLUID CR 100

Can Lid Inlet

The inlet for the can lids is driven by a closed gear box.

Closed Gearbox
Lubricants: CASSIDA FLUID GL 220 or GLE 220, FM GEAR OIL 220

Meeting the lubrication challenges in a can seamer

Challenges for can seamers

- High speed and heat
- High load and high humidity
- High pressure cleaning
- Contamination of food with lubricant
- Contamination of lubricant with cleaning fluid or with food, e.g.
  - Water
  - Juice
  - Sugar
  - Sauces

Challenges for the lubricant in a can seamer

The ingress of cleaning water, beverage or food products into the can seamer is likely to occur. Also sugar deposits from the food or beverage product may attack the machine surfaces resulting in corrosion.

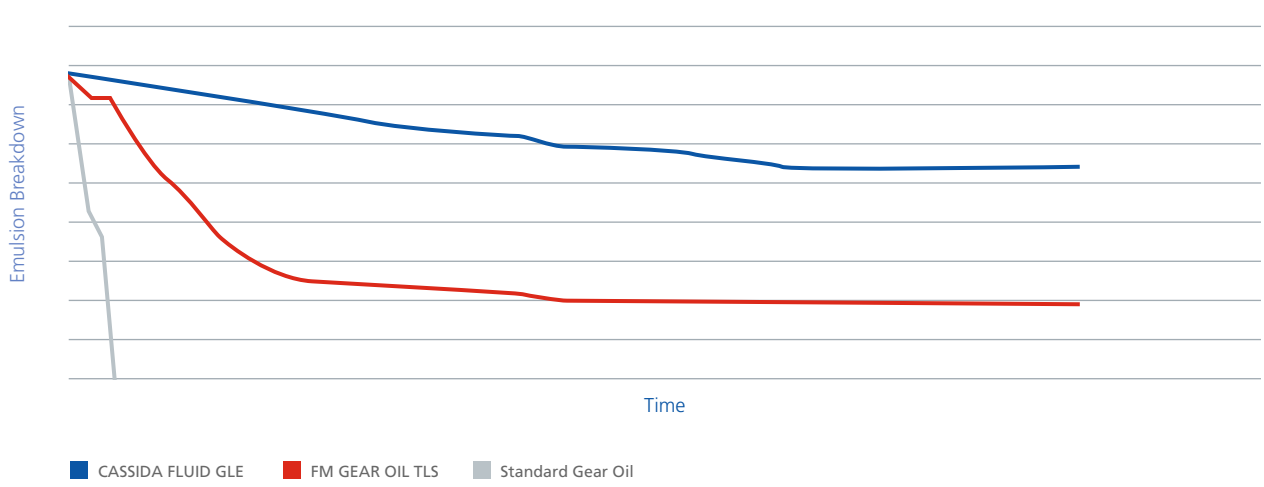
The water handling capabilities of food grade lubricants such as FM GEAR OIL TLS 150 and the CASSIDA FLUID GLE series provide excellent equipment protection in the wet conditions found in beverage and canning plants.

Formulated with the right additives, synthetic food grade lubricants are able to absorb free water and other contaminations like the ones mentioned in the right column. Our lubricants keep the contaminations suspended. Thus protecting the equipment's metal surfaces from rust, wear and corrosion and transporting the contaminations out of the machine.

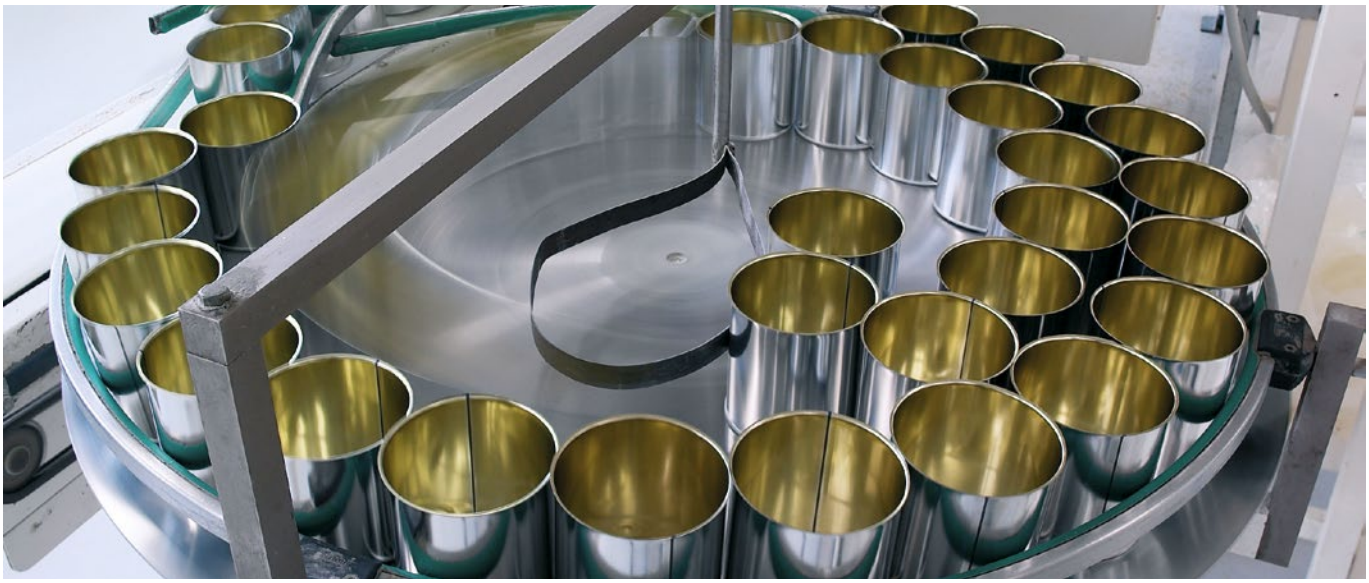
At the same time they have to provide a continuous high performance lubrication in order to ensure maximum reliability of the machine.

Both CASSIDA FLUID GLE and FM GEAR OIL TLS fulfil these criteria.

Water handling characteristics



Original Equipment Manufacturers (OEMs) of can seamers

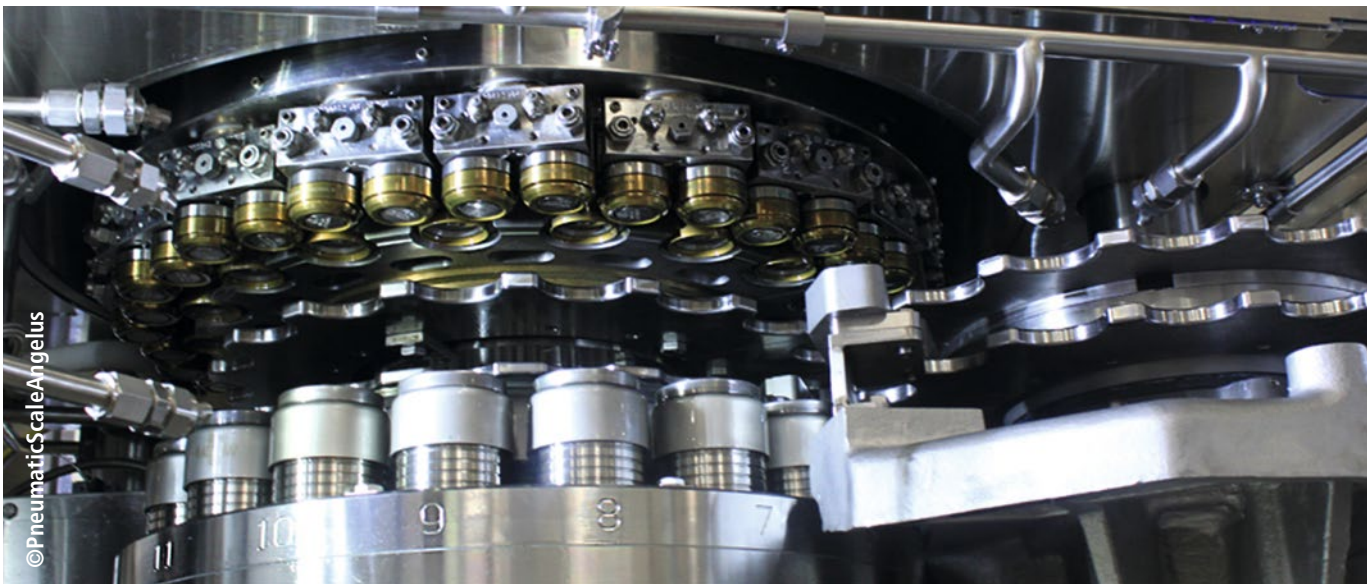


Original Equipment Manufacturers (OEMs) of can seamers

In the following we present a list of the most known OEMs of can seamers. There are several approvals and recommendations available for different types of machines for CASSIDA food grade lubricants.

OEM	Description	Additional Remarks
PS Angelus	Pneumatic Scale Angelus - Member of Barry-Wehmiller Companies - specialises in seaming cans of all types. PS Angelus is globally present.	PS Angelus is market leader in can seaming. Approvals for the respective CASSIDA and FM products are available.
Ferrum	Ferrum is a Swiss company and specialises in manufacturing can seamers for almost all types of food and beverage cans.	Ferrum mainly has can seamers on the market using an ISO VG 100 circulation oil for their central automatic lubrication system. An approval for CASSIDA FLUID CR 100 is available.
JBT Foodtech	Food Machinery Corporation (FMC) is JBT Foodtech today.	A viscosity of ISO VG 220 is required for both total loss system and recirculation. CASSIDA FLUID GLE 220 can be used.
Continental Can Company (CCC)	CCC was an American producer of metal containers and packaging material. They are mainly active in the US.	All CCC seamers still in the market are grease lubricated. An NLGI 1 grease is required.
Toyo	Toyo is a Japanese company and they are a large player in Japan.	Most Toyo can seamers use an ISO VG 100 circulation oil for their central automatic lubrication system. In many cases our CASSIDA FLUID HF 100 is used.
SIMA	Sima is an Italian company. They are mainly present in Europe.	In SIMA can seamers an ISO VG 100 hydraulic or circulating oil is used. CASSIDA FLUID HF 100 or CASSIDA FLUID CR 100 can be used.
Zacmi	Zacmi is an Italian company. They are mainly present in Europe and South America.	For the automatic lubrication system an ISO VG 150 gear oil is recommended. CASSIDA FLUID CR 100 and CASSIDA FLUID GL 150 are listed.

Benefits of FUCHS LUBRITECH can seaming lubricants



FUCHS LUBRITECH can seaming lubricants provide the following benefits:

- Outstanding equipment protection in wet operating conditions normally found in canning plants leading to improved production efficiency.
- Superior wear protection means extended time between maintenance.
- Approved by key OEMs and endorsed by PS Angelus. All new and rebuilt Angelus seamers use CASSIDA food grade lubricants as the first fill.
- NSF H1 registered lubricants
- ISO 21469 certified by NSF
- Approved for use in kosher and halal food production
- Extensive range of OEM approvals
- Better water handling properties
- Less bearing wear and better rust protection

For our customers this leads to:

- Optimized productivity
- Reduced maintenance costs
- Enhanced food safety

CASSIDA Food Grade Lubricants

Innovative lubricants need experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then the best lubricant system can be selected. Experienced FUCHS engineers will be glad to advise on products for the application in question and also on our full range of lubricants.

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