



LUBROTECH SOLUTIONS

Advanced Systems & Minimal Lubrication



**ADVANCED LUBRICATION
FOR GLASS MANUFACTURING**

ONE SOLUTION FOR EACH STEP

SHEARS

As the stream of molten glass leaves the melting tank, it is cut into gobs by automatic mechanical shears.

Both lubrication and cooling are needed here, and these are provided by **Renite D-5-A** shear spray concentrate, diluted with several hundred parts of water (50-150) and applied with the heat-resistant, all-metal **Renite E-Model** atomizer, which delivers a very fine, precisely controlled spray. Also effective and useful for this purpose is the special **Renite Model SGL-4-34a** atomizer that allows nozzle-positioning closest to the blades with valve block "extended" or removed a distance from the extremely hot area.

The product is biodegradable, though for special situations where restrictions on animal, vegetable or mineral oil in waste water are unusually severe, Renite also offers entirely synthetic shear spray concentrates.

CHUTES, TROUGHS AND DEFLECTORS

Next, the gob travels to the blank mould through a series of chutes, troughs and deflectors.

Renite Slide D-10, a two-component graphite/epoxy coating, is applied to these to provide a heat- and moisture-resistant surface with good lubricity.

The components, in convenient-sized packages, are blended together just before use and applied with a brush. The coating hardens in about six hours, without need for oven-curing.

BLANK MOULD AREA

In the blank mould, the gob is pressed or blown to form a parison, a hollow, miniature container with thick walls which will later be blown in the finish mould (blow mould) to final shape.

This is the most difficult stage of the forming process, and correspondingly, the blank mould lubricant is the most important lubricant in the forming sequence.

Briefly, a blank mould lubricant consists of graphite, other organic material, and usually some sulphur in an oil vehicle.

Renite traditionally avoided sulphur, and even today makes only light use of it. Following installation of modern high-

powered dispersing equipment Renite now gives its customers a choice of sulphurised or non-sulphurised lubricants.

The earlier Renite blank mould lubricants used waxes as thickeners and suspending agents, resulting in especially clean lubricants, as the waxes would burn away cleanly, leaving little or no residue.

These are still available and are still in use.

The products have a paste-like consistency, becoming fluid when stirred or rubbed into the swab.

Operators, though, began to ask for a more grease-like, or semi-fluid consistency, such as is provided by the metal soap thickening/suspen-

ing agents used in most automotive and industrial greases.

Thus, Renite has a new line of semi-fluid lubricants with metal soap thickeners, in particular **Renite F-72** (general purpose and heavy-duty) and **Renite F-95** (lighter and cleaner for applications such as pharmaceuticals and cosmetics).



PRECOATING OF BLANK MOULDS AND AUXILIARY EQUIPMENT

For lubrication of blank moulds and auxiliary equipment on the newer machines, there is a trend in preference toward lighter and cleaner lubricants. Renite has responded in part by formulation changes and use of modern dispersing and blending equipment to give a more homogeneous product.

In addition, Renite now offers its precoating, **Renite R-Seal AKX**, which is applied to blank moulds and auxiliary equipment before they are put in service.

The coating, water-based, is applied like a spray paint.

Preheating before application or oven-curing afterward is not necessary; it dries in a few minutes to form a hard, durable coating which can take the normal handling involved in putting the equipment on the machine.

Presently, with use of **Renite R-Seal AKX**, it is possible to go two hours without swabbing at start-up time, a very busy time for the operator.

After that, swabbing begins, but frequency of swabbing is less than without the precoating.



OF HOLLOW GLASS PRODUCTION



Typically, a plant will use about a third less blank mould swabbing compound after adopting the **Renite R-Seal AKX**.

More important to the operators, is the reduction in aggravation and smoke that results from less need to swab. Better distribution and greater cleanliness of ware and equipment are extra bonuses.

NECK RINGS AND OTHER AUXILIARY EQUIPMENT

In addition to the blank mould, auxiliary equipment used in formation of the parison - neck rings, bottom plate and plunger - also needs lubrication. The blank mould lubricant is sometimes used for these, but usually a more fluid and lighter lubricant is preferred for the neck rings.

Operators often fashion their own "dopes" for rings by blending blank dope, oil and sulphur.

These dopes are effective, but are not the best, as they are not of uniform composition, nor are they homogeneous.

They are thus inclined to be dirty, and if containing lumps of poorly dispersed sulphur may pit the rings, which are frequently made of bronze and prone to damage by sulphur.

Making note of the ingredients and proportions used by operators in making their ring "dopes," Renite has developed its own ready-mixed, standardised, homogeneous formulations for ring lubrication.

As with the blank mould lubricants, Renite offers both paste-type (**Renite F-760**) and semi-fluid (**Renite F-770**) products.

In addition, where special cleanliness is needed, as in manufacture of baby food and mayonnaise jars, some use **Renite H**, a lightly graphited oil that has been used since the earliest days of the company for manufacture of fine quality pressware.

Renite H has been updated by a switch to a cleaner oil and to a grade of graphite so fine that it remains in indefinite suspension without the aid of a thickening or suspending agent (**Renite CH**).

FINISH MOULD AREA

Continuing on, the parison is transferred to the finish mould for final blowing to shape.

Not much lubrication is needed here, but a light touch of lubricant often helps.



The previously mentioned lightly graphited oil, **Renite H**, is sometimes swabbed on finish mould shoulders or bottom plates, as is **Renite F-5**, the lightest of Renite's earlier blank mould swabbing compounds.

Renite also offers special anti-check pastes that are applied to trouble spots on finish moulds, the most popular of these being its low-sulphur paste, **Renite Chek-No-Mor**.

LEHR MAT

Finally, the finished container reaches the lehr mat, where it begins its trip through the annealing lehr.

To largely eliminate bottom checks and rust pick-up during this trip, the mat may be coated with **Renite S-24**, a water-based graphite concentrate applied by spray or roller, or a simple trough-and-roller arrangement which is placed against the mat at the floor near the hot end where the mat enters the lehr.

At this point, the mat has cooled somewhat, but is still warm enough so that the coating dries before it contacts the ware.

Diluted about 5:1 with water, the **Renite S-24** is thus applied automatically in a short time as the mat travels by, one application being suitable for several days of operation.

Operators also make an "**S-24 Goop**" by blending **Renite S-24** with an equal volume of flour.

They claim this makes an excellent and long-lasting coating for take-out tongs, star-wheel paddles and other such tools that contact hot glass.



CULLET CHUTE

With Renite lubrication from shears to lehrs, quality will be good and percent pack high, but due to mechanical and other problems, some of the glass will end up as cullet.

Renite eases the trip down the cullet chute with **Renite BL-1-B**, its water-resistant cullet chute grease.

OTHER OPERATIONS, SPECIAL SERVICES

Renite, in addition, has a full range of lubricants and spray equipment for glass-forming operations that do not involve IS machines, including manufacture of pressware and hand blown ware, Hartford 28 operations, and glass sagging.

Do not hesitate to contact us for any further information you may need with this regard.





The company

LubroTech Solutions operates in the field of coolant lubrication and is a leader in the field of advanced and minimum quantity lubrication. For companies working in the field of metal machining with chipping, cold pressing or in the production of hollow glass the time has come to improve the production process and to increase efficiency by saving lubricants during machining with a minimum of investment in money, technique and time.

Minimum Quantity Lubrication

LubroTech Solutions offers advanced lubrication systems which allow to put a measured and precise minimum quantity of lubricant in the form of micro-drops directly on to the working point. The main advantages of such system are:

- substantial reduction of lubricant used
- higher machine efficiency
- increased productivity
- reduced machining cost
- clean machines
- use of non-noxious liquids
- no recycling and filtering
- no problem with disposal of used lubricant

Mission

LubroTech Solutions objective is to help their Clients reduce costs and improve performance at the same time as reducing the environmental impact of their processes.

Attention to the client

A characteristic setting LubroTech Solutions apart is its central focus on the Client.

Together, let's build the best and most suitable solution for you

Please contact our offices to get more information or ask to be visited by one of our specialists. We will assess your production equipment and requirements in order to define the optimum solution and, if you would like, we would be delighted to give you the chance to test our products.

Exclusive distributor

Lubrotech Solutions is the exclusive distributor for Renite Company in:

- Italy
- Bulgaria
- Czech Republic
- Greece
- Poland
- Slovenia
- Ukraine

Exclusive distributor

LubroTech Solutions is the exclusive Italian distributor for the products of three American market leaders:



KoolMist

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Advanced Lubrication for Glass Manufacturing

Via Torino, 521 - 10015 Ivrea (TO) Tel. +39 0125 633591 Fax +39 0125 629573

email: info@lubrotech.com www.lubrotech.com