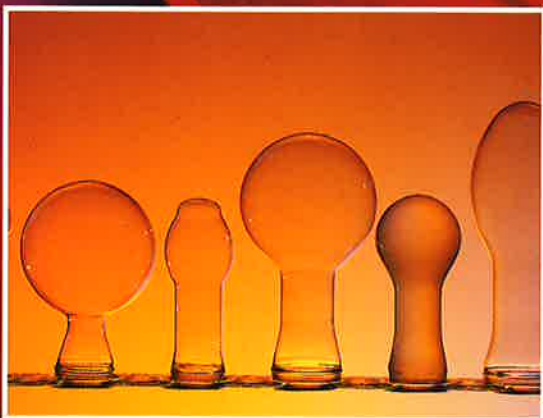
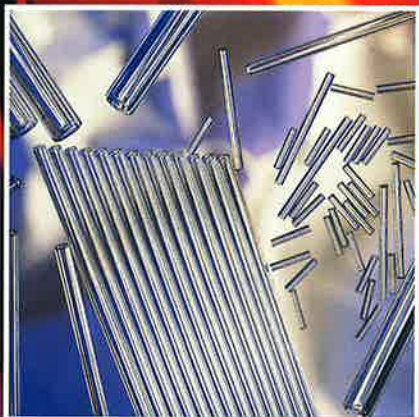
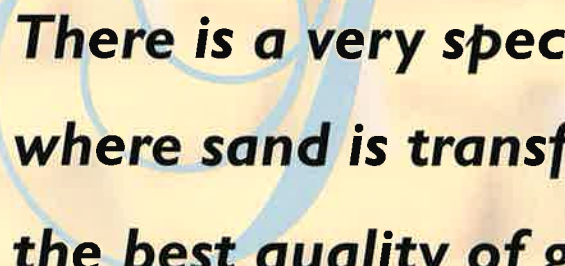


See the Light

**A SPLENDID COMPANY IN
THE WORLD OF LIGHTING**





***There is a very special place on earth
where sand is transformed into
the best quality of glass for lamps***

**EMGO IS, FIRST AND FOREMOST, A SUPPLIER
OF SEMIFINISHED GLASS PRODUCTS TO THE LIGHTING**

EMGO, as a company, pursues its own commercial line. Not only supplying glass components to Philips and Osram but also able to supply all other lamp manufacturers worldwide.

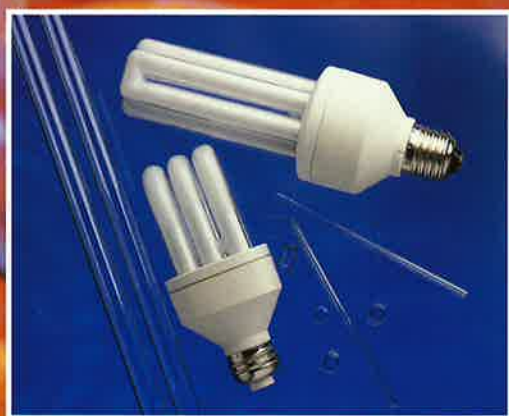
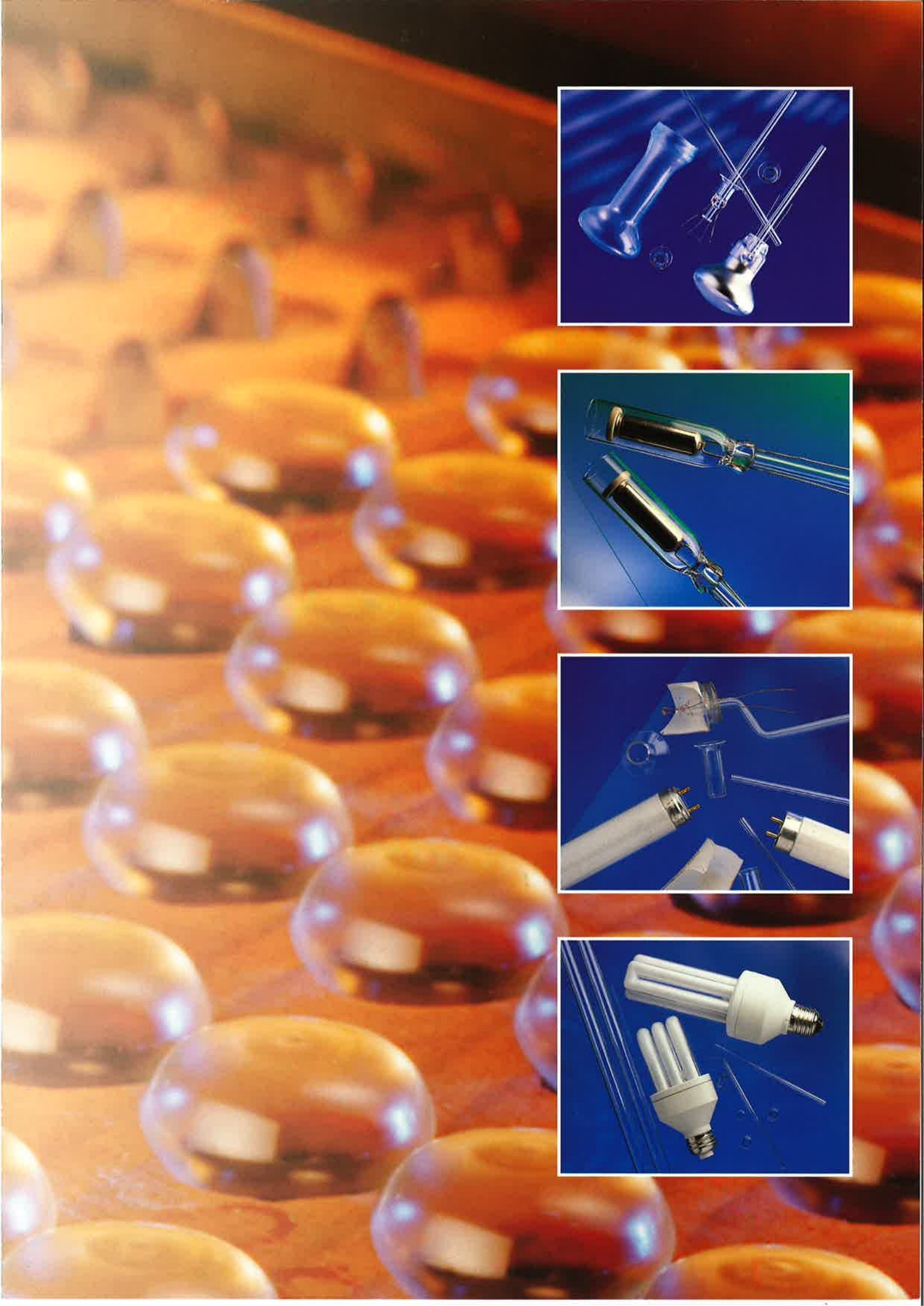
EMGO mainly produces two lamp glass types: bulbs and tubes.

EMGO is the global leader in this field. Quality, reliability in delivery and service, in balance with the right prices, are of prime importance.

EMGO has a minimum of costs for transport of its main raw materials.

EMGO's location in Lommel, however, offers further advantages: motorways, railways and waterways provide a direct link with the international ports of Antwerp and Rotterdam. Despite the closeness of these ports on the edge of Europe, Lommel's location in Europe is central. In other words, EMGO's position is strategically so favourable that its products can easily be distributed all over the world. Indeed, this happens daily.

Furthermore, the company is located in a region with a rich industrial history and an educated workforce where a high level of technology can be maintained.



EMGO DRAWS AND BLOWS THE RED-GLOWING HOT GLASS INTO TUBES AND LAMP BULBS

Product range matches diversity in lighting industry

Lamps are made in basically two shapes: tubes and bulbs.
EMGO manufactures both.

Both have their own properties. Tube glass is also used as a basis for production of other glass components.

Bulb production at incredibly high rate

The hot viscous glass mass first turns into a thick ribbon. This glass is blown and modelled into bulbs of the required size and form on ribbon machines. EMGO operates furnaces that are fired continuously. Each furnace has various units allowing a production of up to 23 bulbs/second/unit. This rate is so high that production can hardly be followed with the naked eye. In a flow operation, frosting and saturation follow with the same speed as the other processes.





Finishing

A major proportion of the drawn glass is used in the finishing department. We produce the whole range of exhaust tubes, flares and rods for all kinds of lamps. These include all types of bulbs and tubes for automotive, compact fluorescent and other special lamps.

Special applications

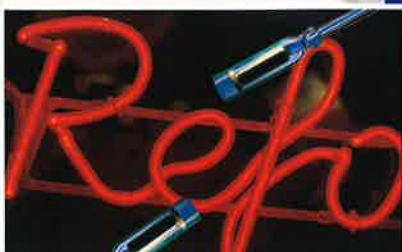
Although most of the lamp glass is intended for domestic, industrial and public lighting, EMGO also manufactures special-purpose products such as:

- bulb glass for Christmas tree decorations
- bulb glass for billiard ball moulds
- minibulbs for the automotive industry
- tube glass for neon lighting.

Speed of drawing process reaches 35 km/hour

The tube-glass drawing department contains various furnaces.

The glass is drawn into tubes with a diameter ranging from 2 to 25 mm in a process reaching speeds of 35 km/hour. The drawing department applies two technologies in forming tubes. Both processes, VELLO and DANNER, involve forming tubes of which the dimensions are controlled by the flow of glass, the blowing air and the drawing speed. These determine the diameter and the wall thickness.



EMGO: A PIONEER IN KNOW-HOW

Pioneer in lead-free lamp glass

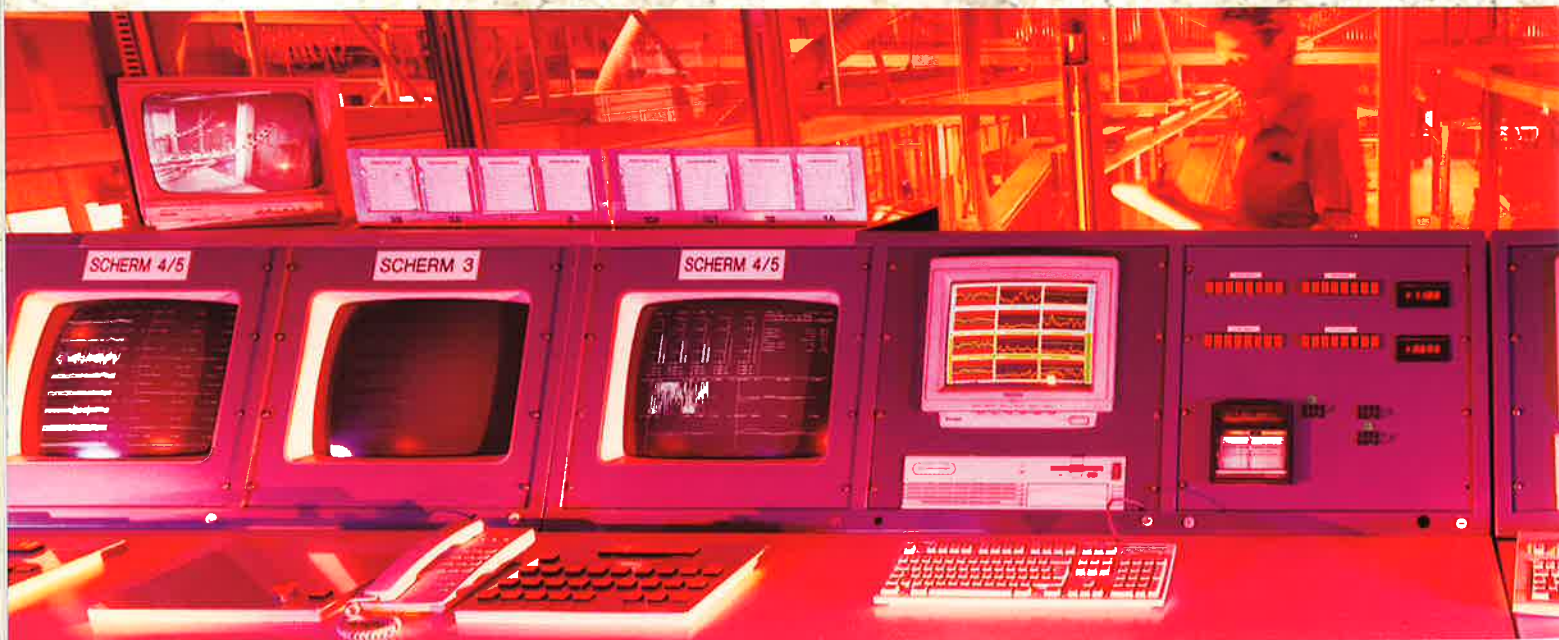
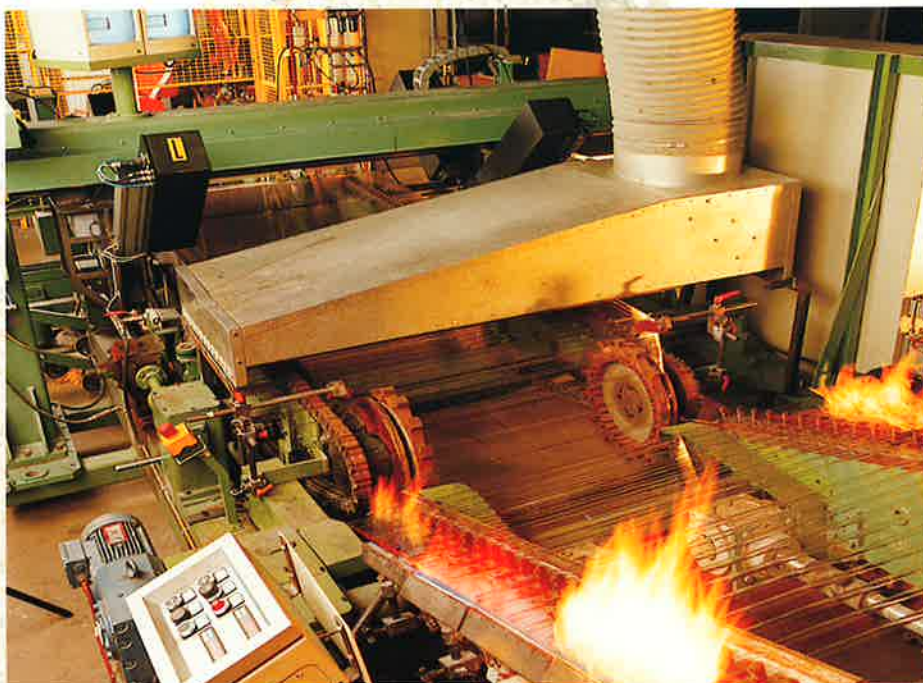
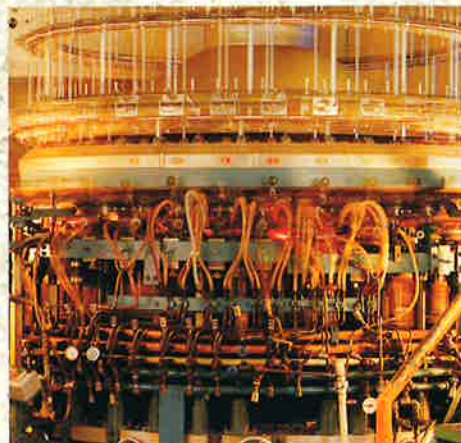
Most bulbs are made of soda-lime glass. Tube glass for lamp components generally contains lead. Indeed, lead has an insulating function, which is a prerequisite for lamp components.

The lighting industry has been trying for many years to reduce the lead content of the glass because lead is harmful to the environment.

EMGO manufactured its first lead-free lamp glass as early as 1994. A very well-balanced mixture of raw materials ensures that the glass can exert its insulating effect without lead. We are continuously investing in our processes and the use of materials in order to protect the environment with the best technologies available. The outcome of all this is a major edge on our competitors.

Innovation in production system

The market for lamp glass manufacturers is not like any other, so specialisation is essential in order to build up know-how in this field. EMGO has been investing in the development of its own production system and equipment for many years. This know-how is the foundation for the quality of EMGO products.



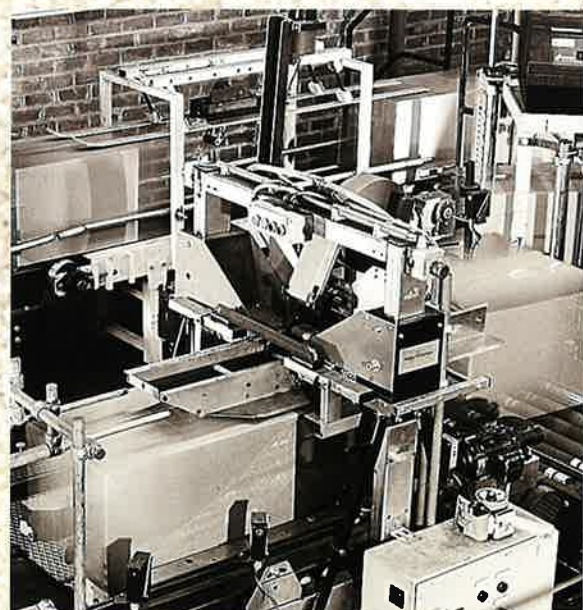
Setting an example in recycling

EMGO packs its bulbs and other glass components in cardboard boxes. As far back as 1965 EMGO began using return packing in Europe: the cardboard boxes are collected from and costs refunded to the customers. This enables repetitive transport in cardboard boxes and minimisation of cardboard consumption. EMGO also recycles its own residual production glass cullet and buys it back from its customers, the lamp manufacturers.



Expert staff

Glass production and finishing has developed into a high-technology activity. This is why EMGO has come to employ skilled and experienced staff capable of assuming major responsibilities. As the whole process is complex, it calls for accuracy and close monitoring. Besides this, discipline in information transfer is vital for a continuous production system. EMGO can always rely on the discipline of its staff.



EXCELLENT PRODUCT QUALITY CONTROL

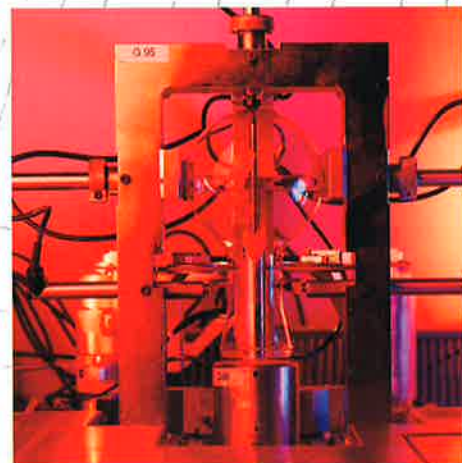
Quality management

The policy has always been to control the processes. This control has been done in many ways, including good equipment design in which process features are built in. In this way, at every stage of the production process we get indications of the stability of the process. These process parameters are measured by all kinds of instruments. Vision systems are also applied here in various ways. By doing this we ensure that end-products leave the production stage with the right specifications. At the end of the production stage, every packing unit has a label allowing us to trace any problem that may occur.

Of exceptional importance: ecological soundness

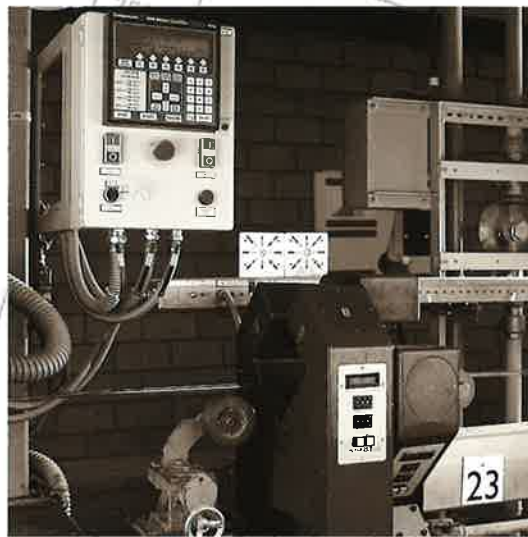
Ecological soundness takes first priority for EMGO. Not only are packing and residual glass recycled, but also extreme care is taken to ensure the purity of water and air used, among other such activities. Furnaces are equipped with recuperators or regenerators. In these systems the flue gases are used for heating up the combustion air and this saves a lot of energy.

The flue gases pass through a filter to remove the dust before leaving the chimney. This contributes to EMGO's aim of minimising environmental pollution.



Well-structured production

EMGO applies international standards to its production process. TQM (Total Quality Management) is a vital element of the production process, allowing constant, all-embracing adjustment and optimisation. Customers can therefore fully rely on a permanently high product quality level. It goes without saying that EMGO has acquired the ISO 9002 certificate.



Camera pictures from heart of the glass furnace

Even where the heat is unbearable for man, cameras keep track of the glass production process. Although the sand is heated to 1500°C on the hot spots, the control department with its automated equipment can follow and adjust the glass-melting process on these spots in real time from its displays. In subsequent process phases, too, cameras are deployed to optimise production and quality.



EMGO THINKS ALONG WITH THE CUSTOMER

Consultancy and service
for every customer

EMGO was founded and developed in Europe, which is clearly its major market. A substantial part of its production, however, is exported to the other continents. EMGO has built up its position with top quality and customised service.

Customised transport
system

The products are carried to the customer in the most efficient way - by rail, boat or truck - according to their destination.

Utmost care is taken of transport, but compliance with delivery conditions is essential.



Uniform packing

Each package bears a label specifying type number, serial number and bar code. The various warehouses serve for intermediate product storage. The label enables us to follow

the complete route of the products from manufacturing to the customer. Products are delivered on the first-in, first-out principle.



Commercial aspects

Most of the contacts are directly with and deliveries are made directly to the factories. In some countries EMGO employs agencies.

Quality, reliability in delivery and service are of prime importance.





EMGO NV

Industriezone Balendijk 1050, Balendijk 161
B - 3920 Lommel - Belgium

☎ **32 (0) 11 55 93 31 - Fax **32 (0) 11 55 96 82

e-mail: sales@emgo.be

www.emgo.be