

Stimulating developments in Firozabad

More than 200 delegates attended a seminar in Agra recently, promoting the development of Firozabad's traditional glassmaking industry in northern India. Industry experts from the Czech Republic contributed to this event, which was organised by India's National Centre for Design and Product Development. Miroslav Synek reports.

Firozabad is a populous town in Uttar Pradesh, with a long tradition in the manufacture of decorative glass items, bangles, Christmas decorations, chandeliers, beads etc. There are about 280 larger glassmaking and decorating units and more than 8500 small workshops devoted mainly to the decoration of glass articles. The total number of people employed by this branch of industry is estimated at more than 100,000, making it one of the most important in the region.

A slow modernisation started in the 1990s when the UP government decided to bring natural gas to the area, thus giving glass factories the possibility to change from coal to a more calorific and cleaner fuel. However, only factories using tank furnaces profited from the change because the design of smaller furnaces (especially pot furnaces) and other gas-consuming kilns were not modified to take full advantage of the more efficient fuel. Pot furnaces with a large number of closed pots are still used widely, even if there does not seem to be a justification for their application. Poor attention is paid to the correct handling and storage of raw materials and well-run batch plants are almost non-existent in smaller glassworks. Cold working and decoration could be performed more efficiently and under better conditions if devices and techniques currently available abroad are applied.

In collaboration with the government of Uttar Pradesh, UNIDO implemented a pilot plant project in Firozabad during 1990s, hoping that the equipment and techniques demonstrated

would be adopted by local glass manufacturers. However, it seems that the stimuli on both sides have not been strong enough to guarantee a quick transfer from traditional technology to a more efficient one. Therefore, NCDPD, headed by forward-looking D P Srivastava, made a courageous decision to offer local glassmakers a chance to get in direct contact with the most recent developments in the field of glass melting, glass working and glass design by inviting a group of leading Czech specialists to a seminar in nearby Agra.

The NCDPD Director asked Miroslav Synek, chief adviser on the UNIDO project in the 1990s to select specialists with experience in these fields who were willing to share their knowhow.

A survey of possible improvements in glass melting technology was presented by Ladislav Laznicka, Professor at the vocational glass school in Novy Bor. Various types of gas-fired pot furnaces and day tanks suitable for melting good quality clear and coloured glasses in open pots were described and a correct heat treatment of the pot in the pot arch and subsequently in the pot furnace was emphasised, both from the viewpoint of glass quality and pot service life.

A detailed paper on crystal glass and its compositions was prepared by Miroslav Rada, Professor at the Prague Institute of Glass and Ceramics. His paper indicated important technical and technological parameters affecting melting (the grain size of raw materials, the type of the glass melting furnace) and the fining of the glass melt (batch composition,

composition of the fining mix, type of raw materials, moisture and cullet content etc).

The Firozabad glass industry is based predominantly on the craftsmanship of talented glass blowers, able to work the glass while it is still hot by using special shaping tools and moulds. Zdenek Kunc, Professor at the Novy Bor vocational glass school, showed some inexpensive tools suitable for the purpose (pinchers, mouth tools, knob tools, stem moulds, clappers etc) and displayed some pieces made with their help.

Some useful recommendations were given Ms Lucie Froemmelova regarding the decoration of glass articles by painting. The speaker also indicated temperature ranges in which painted glassware should be fired. Particular attention was paid to decoration using various types of gold, which are very popular in the Firozabad area. However, the achievement of a good quality of decorated articles may be complicated by the fact that electric decorating kilns cannot be applied to firing because of unreliable power supplies.

Delegates were impressed by the wide-ranging activity of leading glass designer Rony Plesl. More than 500 pictures illustrating his older and recent work were shown. Mr Plesl pointed to the key role played by the design in the global market with glass articles and expressed his conviction that a good, innovative design would contribute significantly to sales of Indian glassware both in India and abroad.

Miroslav Synek's paper was devoted to the identification of recent trends in the manufacture of table glassware and decorative items. The production of machine-made glass is shifting gradually to countries with cheaper labour but hand-made, high quality art glass is still produced in countries with a long glassmaking tradition. However, simple machines and devices should be used for finishing the glass articles (cutting-off, flat grinding, polishing etc) as much as possible so that the labour-intensive and time-consuming processes can be eliminated. Maximum care should be given to glass quality, article design, decoration, packaging, reliability of supplies and flexibility vis-à-vis the customers' wishes and requirements. ■

FURTHER INFORMATION:

Miroslav Synek, Synek Development Inc,
 Velim, Czech Republic
 email: synek.miroslav@quick.cz