



GLASS INDUSTRY

GLASS INDUSTRY. Glass making has been known and practiced in Iran for about 3,500 years. Until about 1930 local glass making was done in small craft workshops. The raw materials needed for glass production abound in Iran except for soda ash, but this input will also soon be entirely domestically produced.

Small glass works started producing using modern equipment, such as two plants in Tabriz in 1932. Another was added in 1934. In 1932, there also existed a glass works in Rašt and another one in Bārforuš. It was only in 1938 that the first modern glass factory with 520 workers was established in Tehran (near the Railway Station), which is still operational (Floor, 1984, Annexes I and II; Zāhedi, pp. 87-89, with photo). Prior to that time glass blowing was carried out mostly for household and ornamental items, although some thick glass sheets also were produced (Floor, 2003, pp. 88-112; Wulff, pp. 167-71). One moderately large and about twenty small glass works were located in Tehran, and about ten elsewhere by 1948. All but three private glass works (i.e. those in Rašt with 120 workers, Bābol, with 130 workers, and Tehran, with a maximum of 800 workers) had closed down due to foreign competition. All of them were almost entirely manually operated. The Tehran factory did not produce at full capacity (4 kilns with a total capacity of 8 tons). If completed, it would have had a capacity of 10 tons and could have satisfied domestic demand, including that for window glass. However, its output was only one ton per day and it never was able to achieve a production level at its nominal capacity (Zāhedi, pp. 88-89; Koellner).



Before WWII these plants produced a wide range of glassware, but by 1948 they only made glass funnels, bottles and cheap tea glasses; all other products were too expensive. This was because domestic soda ash of good quality was not available, while the import duty on soda ash was six times higher than that on imported glassware. For this reason many smaller glass works and imports filled the gap. The completion of the glass factory of Tehran, i.e. a new sheet glass plant, was almost achieved in 1948. Overseas Consultants recommended that Iran invest in mechanized glassworks and in the production of good quality soda ash. The LeBlanc soda ash plant at Aminābād only produced low-grade soda ash, and an investigation into the possibility of an improvement of the quality of its raw material input was recommended, in which case an upgrading would be warranted. Furthermore, Overseas Consultants discouraged the construction of a Solvay plant that had been planned at Haštgerd, where a brick and concrete building had been completed in 1940, but whose realization had been prevented by the outbreak of WW II, because domestic demand was too low to make such an investment cost-effective (Roberts, p. 22, 34; Overseas Consultants, vol. 4, pp. 168-69, 171-72; Gupta, p. 76). New investment under the First Development Plan led to an increase in glass production. In 1955, some 4,000 tons were produced and some 5,000 tons in 1959 by the Tehran plant and several smaller privately owned factories. With the construction of a new plant that became operational in 1967 Iran added considerable new capacity so that it could satisfy most domestic needs. In 1974 sheet glass production was 76,000 tons and 6,000 tons were imported. However, due to a construction stop, only 65,000 tons were actually consumed; the remainder was stored. Furthermore, Iran produced frosted glass (11,000 tons) and safety glass (5,000 tons) made of imported sheet glass (Echo of Iran, 1972, p. 317-18, Ibid., 1975, p. 247).

TABLE 1. Composition of sheet glass by weight.

A total of five factories produce sheet glass with a total capacity of 292,000 tons per year. Most of their equipment is now produced domestically.

TABLE 2. Glass factories: capacity and market share.

Iran's glass industry produces household glassware such as plates, glasses, bottles, jars, jugs, vases, statues etc. ,as well as vast quantities of sheet glass. Presently, five large plants are in production, supplying most of the country's needs and only a relatively small part of the needs still has to be imported.



Plans have been made for expanding production through the creation of new facilities in the Third Development Plan. The total nominal production capacity of the country's production plants is 293,000 tons and the actual production is 257,000, i.e. the plants work at 88% of their capacity, on average.

TABLE 3. Export of sheet glass, 1995-97.

Until the year 2000 ,float glass was not manufactured in Iran and its requirements (4 million sq m) were imported. As of 2000 ,four new plants (three in Qazvin; one in Sāva) with a total capacity of 400,000 tons have started production so that Iran has become self-sufficient. Iran, considering its rich resources of raw materials, will become a net exporter of glass. Already, it supplies a considerable part of the needs of the countries of the region. In 1995, Iran exported 19,500 tons of sheet glass worth 2.5 million US dollars. These figures declined to 7,100 tons and 1.9 million dollars in 1996, but again rose considerably in 1997, to 12,700 tons and 2 million US dollars (<http://www.iranexportsmagazine.com>). The industry employed some 10,500 workers in 1995 and 12,400 in 2000 reflecting the continued growth of the industry. This is also clear from its share in total manufacturing employment, which grew from 1.3% in 1995 to 1.4% in 2000 (UNIDO).

Šiša Naškan Industries (S.N.I.) was established in 1975 and is still one of the leading manufacturers of safety glass in Iran. It is also one of the independent companies of Société Anonyme Iranienne de Production Automobile (SAIPA), originally owned by the French company Citroën, manufacturing automotive and architectural safety glass in a wide variety of laminated windscreens, tempered sidelights and back lights for cars, buses and trucks, double glazed units, bulletproof glass ,as well as glass for domestic equipment. Screen-printed tempered and laminated glass can also be provided upon request.



BIBLIOGRAPHY

Echo of Iran, *Iran Almanac* 1972, 1975, Tehran. Echo of Iran, *Iran Almanac*, 1961-1977, Tehran. Economist Intelligence Unit, *Islamic Republic of Iran. Industrial Revitalization*, Vienna, 1995, pp. 106-10.

W. Floor, *Industrialization in Iran 1900-1941*, Durham, Occasional Paper Series no. 23, 1984.

Idem, *The Traditional Crafts in Qajar Iran*, Costa Mesa CA, 2003.

R. N.Gupta, *Iran. An Economic Study*, New Delhi, 1947.

H.-J. Koellner, *Die Grundlagen der Industrialisierung Irans unter besonderer Berücksichtigung der wichtigsten iranischen Industriezweige*, Ph.D. diss., Ludwig-Maximilians-Universität, Munich, 1949.

E. Mayer, *Islamic Republic of Iran. Industrial Sector Survey on the Potential for Non-Oil Manufactured Exports*, 1999.

Overseas Consultants, *Report on the Seven Year Development Plan for the Plan Organization*, 5 vols., New York N.Y., 1949.

N. S. Roberts, *Iran. Economic and Commercial Conditions*, London, 1948.

UNIDO, "Iran (Islamic Republic of)," search "Iran" at /articles/; select "Country Information" and, from that page, "Statistics." H. E. Wulff, *Traditional Crafts of Persia*, Cambridge Mass, 1966.

‘Ali Zāhedi, *Sanāye‘-ye Iran ba‘d az jang*, Tehran, 1323 Š./1945.