

INFORMATION REPORT

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1. so-called hairpins (Haarnadeln) have been in production at the Leuna works since 1928. The name was given to pre-heating equipment in the hydrogenation process in view of the resemblance of this equipment with giant hair pins. When the Russians took possession of the Leuna works, they showed much interest in the hair pins and the tools with which they were produced. Subsequently, they gave orders to produce hairpins and tools for shipment to the USSR.
2. Hairpins are two bored pipes (not rolled pipes) which are welded together in hairpin form with a piece of curved pipe. The pipes are made from N 10 material which is a steel alloy containing 2.7 percent chromium, 0.35 percent molybdenum, 0.35 percent tungsten, 0.70 percent vanadium and 0.24 percent carbon. Since this alloy is not available in East Germany and since its available substitute material called N 8, containing 2.5 percent chromium, 0.25 percent molybdenum, 0.30 percent tungsten and 0.18 percent carbon, is not suited for the use in hairpin pipes, the N 10 alloy has been imported from Russia since 1951, when the first Russian order for delivery of hair pins was given.
3. The total height of a hair pin is 15 meters. Two types are produced, one for 325 atmospheres (atu), the other for 700 atu. The 325 atu type have an interior diameter of 120 mm and a total diameter of 171 mm. The 700 atu type is produced in two versions: with pipes of 100 mm (interior diameter) and 171 mm (total diameter), and with pipes of 120 mm (interior diameter) and 190 mm (total diameter). The two pipes of a completed hairpin are between 35 to 40 cm apart. Each pipe is surrounded throughout its entire length with iron "ribs" (Rippen), that is, circular pieces of ordinary sheet iron of 3 to 4 mm strength; they are welded to the pipes at distances of about 3 cm. The purpose of the ribs is to increase the surface of the pipes for better reception of heat. The hair pins are heated in gas chambers, preliminary to the hydrogenation process.
4. The pipes of the hair pins are welded together from individual pieces with the aid of a butt welding machine (Stumpfschweissmaschine). Leuna is the only works in East Germany which has machines of sufficient size to be used for hairpin welding. In the postwar period, there were three such machines at Leuna. One was delivered to Czechoslovakia some time after 1945. Of the other two still at Leuna, one was made in 1936 and the other in 1951 for delivery to the Russians. This machine is still being tested at Leuna prior to delivery; it is provided with Russian lettering. The over-all height of a machine is about seven meters; it is about five meters long and three meters deep. The

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Leuna machines are able to weld pipes and other metal pieces, such as rails, with cross-sections up to 47,000 square millimeters. Each machine has two jaws in which the pipe pieces are held; one of the jaws is fixed, the other one is movable. During the welding process, the two pipe pieces are alternately brought close together thus their distance is continually varied. The heat thus provoked through varying electrical resistance finally reaches the point where the pipes start to scatter sparks. At this moment, the two pieces are brought together by mechanical action and welded.

5. The first Russian order for hair pins from Leuna in 1951 was for the delivery of about 150 pieces. Most of them were of the type with an interior diameter of 120 mm and a total diameter of 171 mm. This order was completed in 1951. In January 1952 the Russians gave a new order for 180 hair pins, most of them also of the 120/171 mm type. Production was begun in March 1952; the order was completed in February 1953. After completion, the hair pins were packed individually into wooden crates and shipped to Russia by rail via Brest Litovsk.
6. No new Russian order for 1953 has come in yet, but there is talk in the works that such an order is pending. There is also talk that the welding machine built in 1951 is to be shipped to Russia in the near future.

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