



TAMINI
GROUP



OVER 80 YEARS IN ENERGY APPLICATIONS

The development of modern industry in Italy coincided with increasing use of electrical power. In 1916, a small dynamic company was set up in Milan area by Mr. Carlo Tamini manufacturing distribution and special transformers for electrical networks and industrial applications.

This company, always remaining a wholly privately owned and self-sustained organization, was to develop into the present day Tamini Group of Companies, which, at the turn of the century is a leading Italian manufacturer of industrial and power transformers. Since the beginning of its activity, Tamini became a favoured supplier of the most important Italian industries and of the Regional Electricity Boards, a position which retained and improved in the 60s, when they were incorporated in the National Electricity Board ENEL. From its first premises in Milan, Tamini moved in the course of the 50s to its present Melegnano headquarters, expanding its operation both in Italy and abroad. In subsequent decades Tamini Group markedly increased its technical capability and manufacturing facilities with new acquisitions and continuously improving its R & D activity. In the course of its life Tamini has become a qualified supplier all over the world of important industries in many diversified sectors as well as of electrical utilities, with a share of about 50/50 between the two sectors.

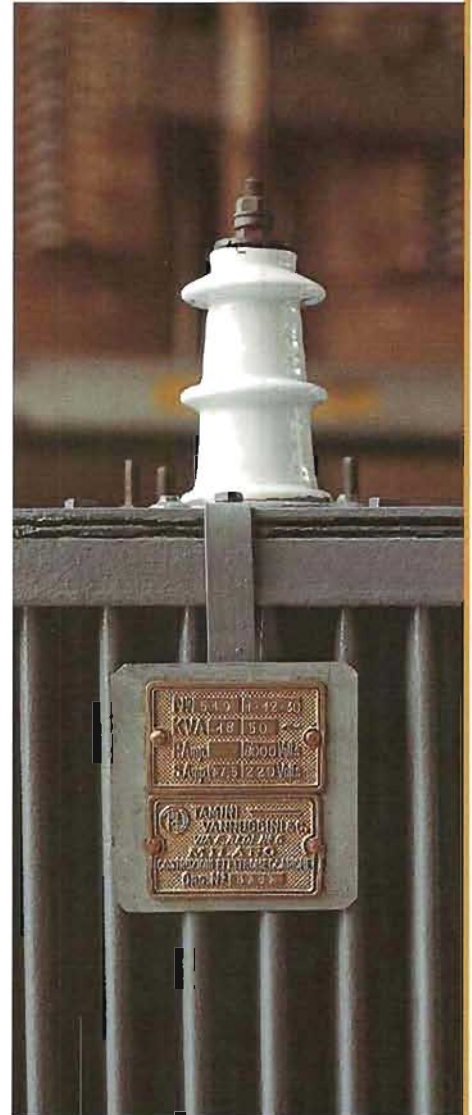
Today more than 70 % of Tamini's turnover is derived from exports, mainly directed to highly industrialized markets in Europe and North America, however with consistent export also to other areas in Asia, Africa and Latin America. From its Melegnano headquarters, the Tamini Group today controls four companies with

the following manufacturing facilities:

- TAMINI TRASFORMATORI:
factories in Melegnano and Legnano (MI)
- VERBANO TRASFORMATORI
Novara (NO)
- VTD TRASFORMATORI
Valdagno (VI)
- T.C.M. TAMINI LIMITED
Swindon, UK
- TAMINI TRANSFORMERS - US
IL. USA

Their production is fully integrated with each factory specializing in a selected range of transformers. Management, Engineering, Administration, Procurement and Commercial offices are located in the Melegnano Headquarters, each facility having its own co-ordinated engineering and planning organization. Quality Assurance, Quality Control and Research & Development refer directly to the General Manager and to the Chief Engineer.

A more extended information on Tamini Group structure and activities is given in the following pages.



DISTRIBUTION AND SPECIAL TRANSFORMERS

VTD TRASFORMATORI VALDAGNO

This modern factory, located near Vicenza, completed in 1992, covers 5,000 sqmt, of which 3,000 is covered. It is specifically designed and structured for the production of:

● small and medium mineral and silicon oil immersed transformers up to 20,000 kVA as well as dry-type and cast resin transformers up to a voltage of 36 kV. for the following applications:

- rectifier transformers for:
- railways traction
- naval propulsion
- motor drive
- electrochemical plants
- power centers
- reactors



Sealed type transformer silicon oil filled - 1000 kVA/0.415 kV



Dry-type transformers



Mineral oil filled transformer - 9500 kV/6 kV

INDUSTRIAL AND SPECIAL TRANSFORMERS

TAMINI MELEGNANO

The Melegnano premises - to which Tamini moved from central Milan in the 1950s - have a special place in the company's history and development. In the post war period, it was here that the group culture and dedication to the application of high technology solutions to specific requirements was first established, and it was from here that Tamini gave its contribution to post war industrial development in Italy.

HEADQUARTERS OF THE TAMINI GROUP

President and Managing Board, General Management, Administration, Engineering, Sales Departments and General Services are also located in Melegnano, in a five - storey 1800 sqmt office complex near the factory.

FACTORY

Today the factory covers an area of 18,000 sqmt half of which is roofed, situated on the outskirts of South Milan near the Autosole Motorway exit. The factory has lifting facilities of up to 150 ton and a modern test room which was redesigned and extended in 1990. The factory specializes in the production of arc furnace, rectifier and special transformers. Test facilities and quality assurance procedures are the same as in the Legnana plant.



140 MVA EAF transformers 69/1.7 kV and a 82 MVA series reactor (USA)



Internal view of one of 18 rectifier transformers, 26.8 MVA (Canada)



One of two rectifier transformers 2x22.6/32 MVA (Korea)



One of six autotransformers 240 MVA - 300/245/145 kV (UK)

LARGE TRANSFORMERS

TAMINI LEGNANO

The Legnano factory is about 35 km from Milan. Transport links are excellent, since the main Milan - Sempione highway passes close to the factory, providing a link into the entire motorway network while the nearby railway station contains a large goods yard.

The factory covers 15,000 sqmt, of which 4,000 are roofed. The 24 metre high building is specifically designed for the manufacture of large transformers of up to 400 ton unit weight. The test room can handle transformers or transformer banks up to 1000 MVA and voltages up to 765 kV. The test room in Legnano factory installed in 1992, is fitted with the most advanced test equipment and control instruments, as needed to perform any routine, special and type test corresponding to the size and voltages of the transformers manufactured in the Legnano factory.

The tests can be carried out in accordance with IEC Standards and with any other recognized standard in the world.

As per Quality Assurance Procedures, all instruments in the test rooms of all Tamini's factories have calibration certificates which are regularly updated by qualified laboratories, all this in accordance with ISO 9001 procedures.

The test rooms in Legnano and in the other Tamini's factories are constantly subject to technical improvement, in order to have all times the most up to date equipment and instrumentation.



125 MVA - 250 kV power transformer for a substation in Switzerland during testing





POWER TRANSFORMERS

VERBANO TRASFORMATORI NOVARA

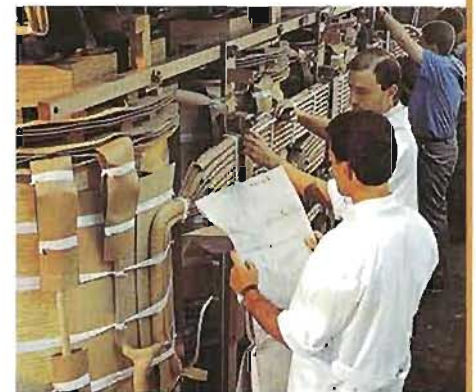
The Novara factory covers 21,000 sqmt, of which 10,000 is roofed, and is close to the Turin - Milan motorway. The factory has been specifically designed and laid out so as to ensure speed of production and ease of monitoring, resulting in extremely high quality levels.

Of particular note is the 3000 sqmt winding manufacturing area with a separate space dedicated to the most delicate phases of the production and which serves, with its large vertical and horizontal winding machines, also the Legnano factory for the winding columns for large transformers.

The Novara factory specializes in the manufacture of power transformers from 10 to 100 MVA, up to 220 kV for mains supply and distribution.

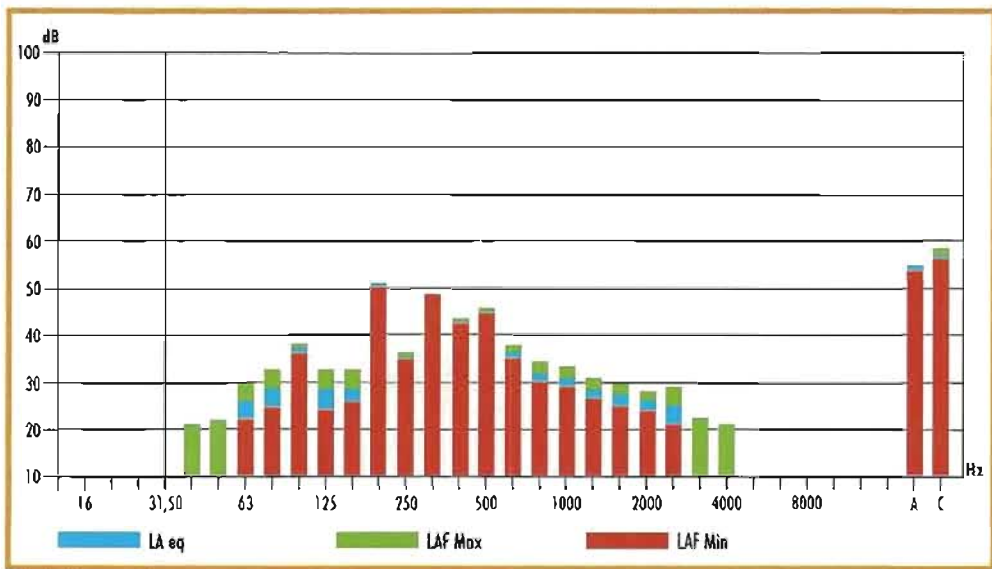
In common with all the other companies and factories of the Tamini Group, all activities at Novara are carried out in strict accordance with the precepts of the Quality Assurance programme.

The same applies for test facilities.





Internal view of a saturable reactor for a 123 MVA EAF transformer (France)



Noise Level Measurement

