

The Prest-O-Lite Story: Union Carbide Corporation, Linde Division

Three men, an idea, a challenge — these were the basic elements of an event taking place more than 50 years ago that resulted in the growth of a national industry, a new town, America's biggest automotive event and a giant industrial facility.

The three men were Carl Fisher, James Allison and P. C. Avery.

The idea was Avery's belief that automobiles could be equipped with night driving lights by means of acetylene compressed into portable cylinders.

The challenge was whether Avery's idea could be turned into a working reality. Fisher and Allison, already partners in an Indianapolis automobile firm, believed that it could. In 1904 they joined with Avery in forming the Concentrated Acetylene Company for the purpose of assembling and filling acetylene cylinders.

The start of this small factory at 28th and Pennsylvania Streets in Indianapolis marked the practical beginnings of the acetylene cylinder industry. Though

their vision was broad, Fisher, Allison and Avery could scarcely realize that from this humble beginning would grow the Speedway facility as we know it today.

In 1906 Avery withdrew from the company and Fisher and Allison changed the name to the Prest-O-Lite Company Inc. PREST-O-LITE was the name they gave to their acetylene cylinders that were fast becoming an indispensable accessory for the American automobiles.

Acetylene lighting meant safer driving at night and gave an additional impetus to the growing automobile industry. More automobiles meant, in turn, a still larger demand for PREST-O-LITE products. Even after several additions to the Indianapolis factory, the company was unable to keep pace with the demand. Larger quarters were needed.

Because of an explosion in the factory near St. Vincent's Hospital then located on the south side of Indianapolis, it was decided in 1912 to build a new

factory on the outskirts of Indianapolis. Here, in the preceding year, Carl Fisher had built the Indianapolis Motor Speedway that was to become famous throughout the world as the home of the classic Memorial Day Auto Race.

With the construction of the glass-walled PREST-O-LITE Factory in the corn fields in the vicinity of the Motor Speedway in 1912, a new town was born. Speedway, Indiana, was one of the first scientifically designed industrial communities in our nation. The factory and the community prospered together, giving rise to a spirit of mutual interest and cooperation that has carried forward to the present day. Speedway citizens today reside on "Presto Street," "Polco Street," "Fisher Street" and "Allison Street".

By 1917 the PREST-O-LITE Company had become a recognized leader in the acetylene field with a nationwide system of charging plants and worldwide distribution of its products. In the early years, the water for the town of Speedway was supplied from wells operated by the factory. The fire truck was housed at the factory and manned by volunteers from the factory work force. Recognizing the potential for further growth, the company joined with National Carbon Company Inc., Union Carbide Company, Electro Metallurgical Company and the Linde Air Products Company to form Union Carbide and Carbon Corporation.

With the formation of a new corporation, Fisher and Allison went their separate ways — Fisher to pioneer the cross-country Lincoln Memorial Highway

and to undertake the development of Miami Beach, Florida, and Montauk, Long Island; Allison to develop the Allison Experimental Company, the forerunner of the present Detroit Diesel Allison Division of the General Motors Corporation now located in Indianapolis and Speedway.

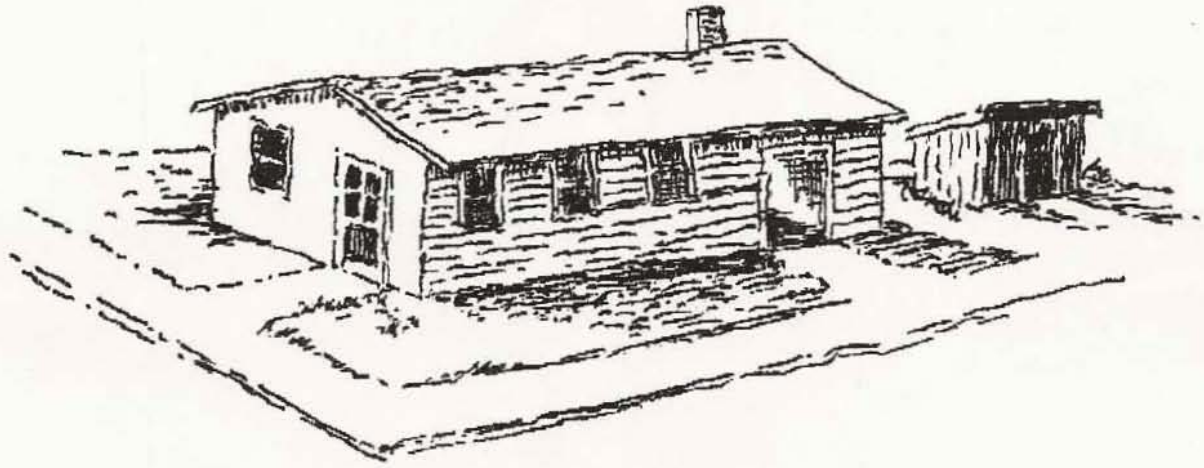
As a unit of Union Carbide, PREST-O-LITE continued its traditional pattern of growth — a pattern reflected in a high standard of service both to industry and to the Speedway community.

The establishment of the PREST-O-LITE Acetylene Research Division in 1919 (the forerunner of the laboratory that was organized at Speedway three years later) was a sign of the management philosophy that signaled continued growth for the years ahead.

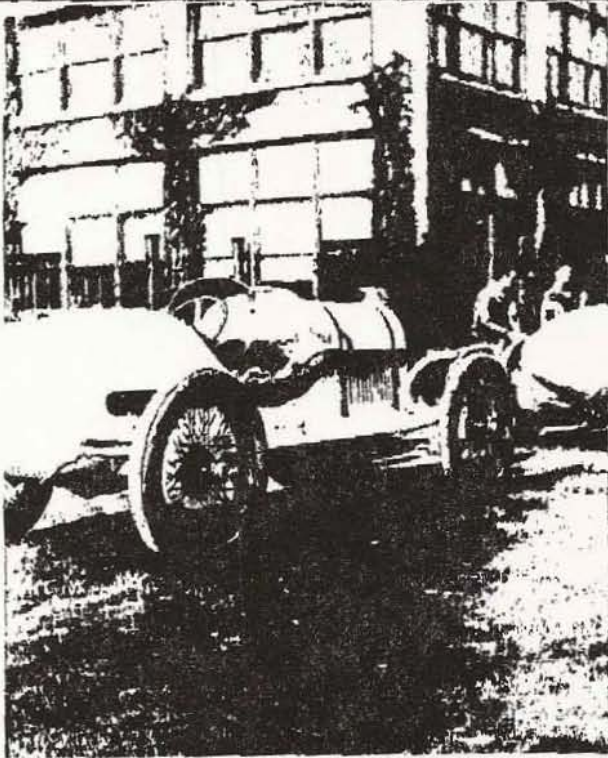
In 1947 PREST-O-LITE became a part of LINDE. Officially it was called the PREST-O-LITE Factory of Linde Air Products Company. Now it is known as the Linde Division of Union Carbide Corporation; however, to members of the Linde "family," it is best known as our Speedway Factory.

Today the Speedway facilities cover 45 acres and include the Speedway Factory, Coatings Service and Charging Plant. The major part of the property, approximately 30 acres, is devoted to factory operations that occupy a floor area of 600,000 square feet.

Since the early days of the rapidly growing cryogenics industry, Linde has been a leader in the development of dependable equipment for the storage, distribution and handling of liquefied gases. Today's cryogenics containers are built on the principles es-



Prest-O-Lite's first home was located at 28th and Pennsylvania Streets.

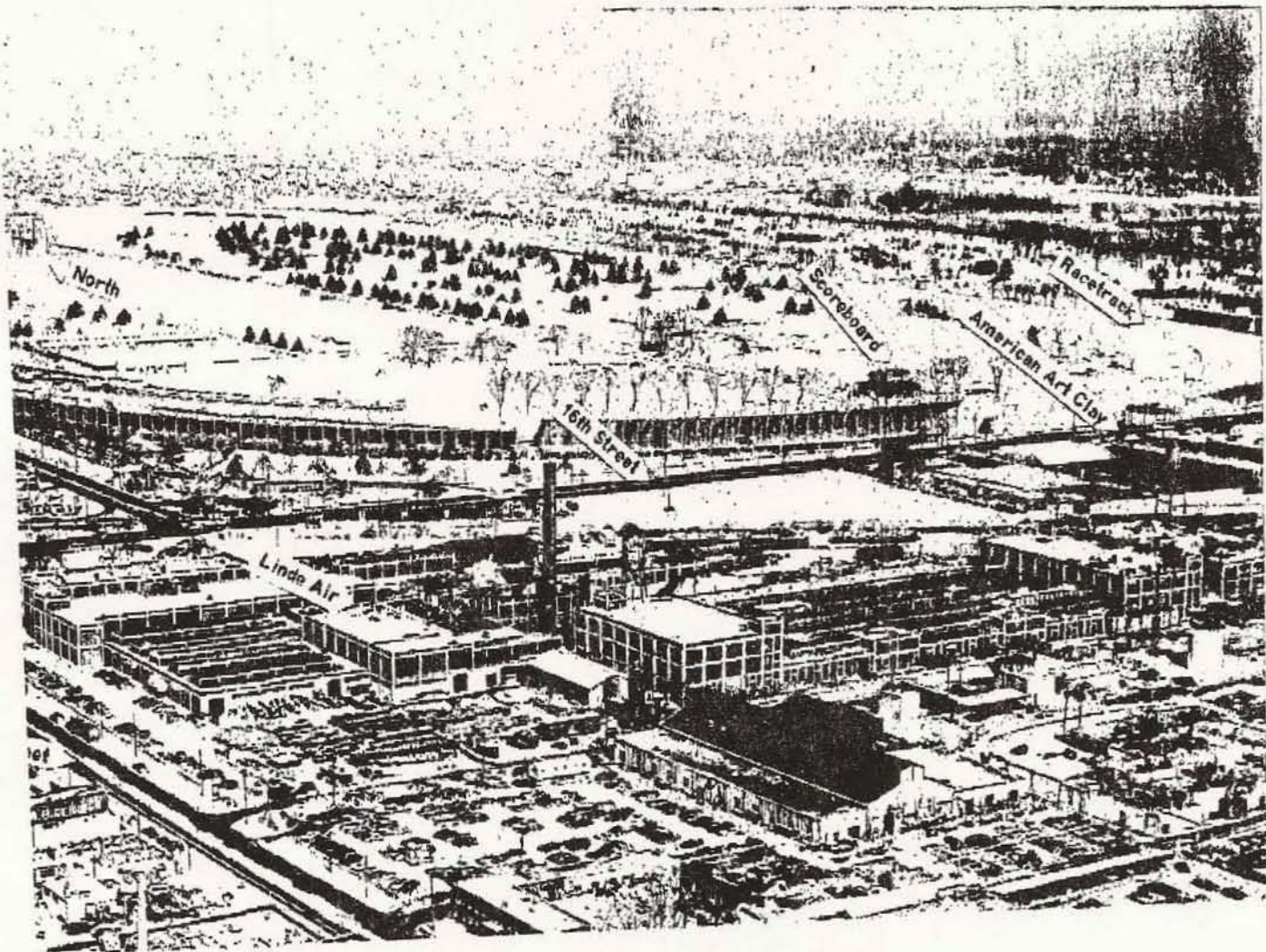


Early race cars were shipped by rail to Prest-O-Lite's siding.

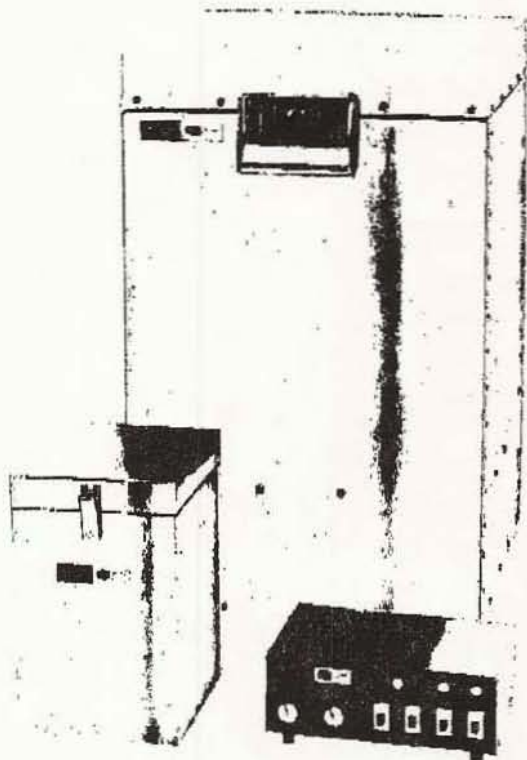
established by Sir James Dewar, the 19th century British chemist, whose investigations into the properties of matter at low temperatures led him to develop the Dewar Flask. This double-walled, vacuum-insulated glass container made it possible to handle and store cryogenic fluids.

Numerous advances in metallurgy and vacuum technology, as well as exhaustive studies of heat transfer and insulation techniques, were required before a modern metal version of Sir James Dewar's glass flask could become a practical reality. About 1960, Union Carbide Corporation's Linde Division began marketing a series of cryogenic liquid containers designed to fulfill the needs of industry and science.

As a result, cryogenics has become an important tool in science and in industries from agriculture to space. It is used today to preserve semen for artificial breeding programs and for cryoquenching of newly formed metal parts; to freeze and store blood cells and to fuel space vehicles. And, in all these applications, rugged Linde cryogenic containers, manufactured in Speedway, play a vital role.



Biological Freezers

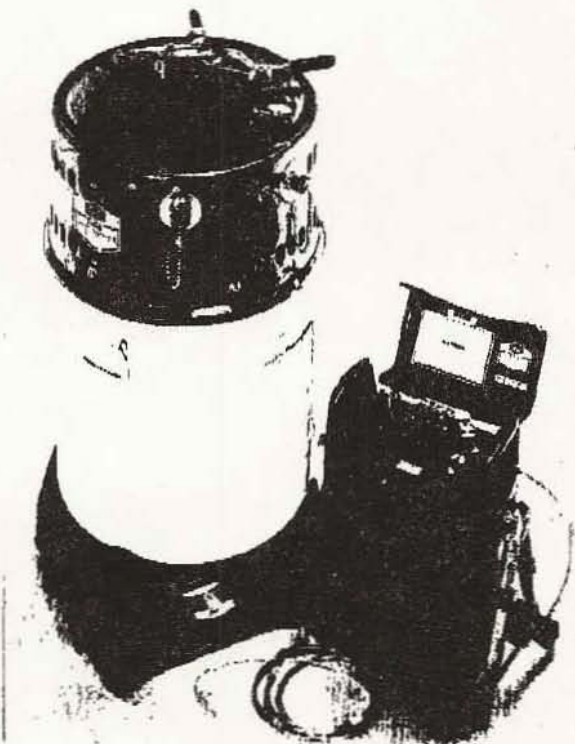


Typical of the products manufactured at Speedway are Linde refrigerators — small refrigerators for the laboratory and the field, and large refrigerators for storage and research. Linde also produces a second line of portable containers for liquid nitrogen transfer and distribution.

For many years Linde has been instrumental in research, manufacturing freezers for biological specimens, controlling the critical rate of freezing and for simple, economical specimen freezing. Product development has been paced by comprehensive past and present research programs that span almost every known or potential application of cryogenic temperatures. To mention only a few, these programs have covered:

- Freezing and storage of blood cells and biological samples
- Food freezing
- Transportation refrigeration
- Preservation of semen for artificial breeding programs
- Nuclear physics research
- Rubber and plastics deflashing
- Preservation of cheese and yeast cultures
- Metallurgical processes (cryoquenching)

Another product produced at the Speedway Factory is the Linde Oxygen Walker System. For the first time, patients who require continuous oxygen therapy can truly be up and about for prolonged periods. Under conventional methods, the patient with an advanced case of emphysema is restricted to the immediate vicinity of his stationary oxygen supply. Since the introduction of the Oxygen Walker System, the patient carries his treatment with him. Many are able to assume such activities as household chores and recreational interests. Some patients are even able to return to work.



Oxygen Walker

Dr. Thomas L. Petty, associate professor of medicine and director of the respiratory care unit at the University of Colorado Medical Center has stated, "Patient education, good bronchial hygiene, breathing training and graded exercises constitute the now generally practiced rehabilitation program. The Linde Oxygen Walker System provides a new dimension of activity for respiratory cripples."

Developed by Union Carbide Corporation's Linde Division, the oxygen therapy system consists of two parts: the "Walker" and the "Reservoir." The Walker, a small lightweight unit, is worn suspended from the patient's shoulder — much like a camera carrying case. Oxygen is supplied from the Walker to the patient through a clear polyethylene tube. The Reservoir is a liquid oxygen storage unit that remains in the patient's home for refilling the Walker and for supplying gaseous oxygen when the patient does not have to be ambulatory, or during sleep if prescribed by his doctor.

Even though the advent of the cryogenic business has resulted in an ever-growing production of these

sophisticated pieces of equipment, the Speedway Factory is still a major producer of acetylene cylinders. The original cylinders built for motorcycle and automobile lighting and designated the "MC" and "B" cylinder are still being manufactured along with a wide range of sizes to meet the varying needs for acetylene gas.

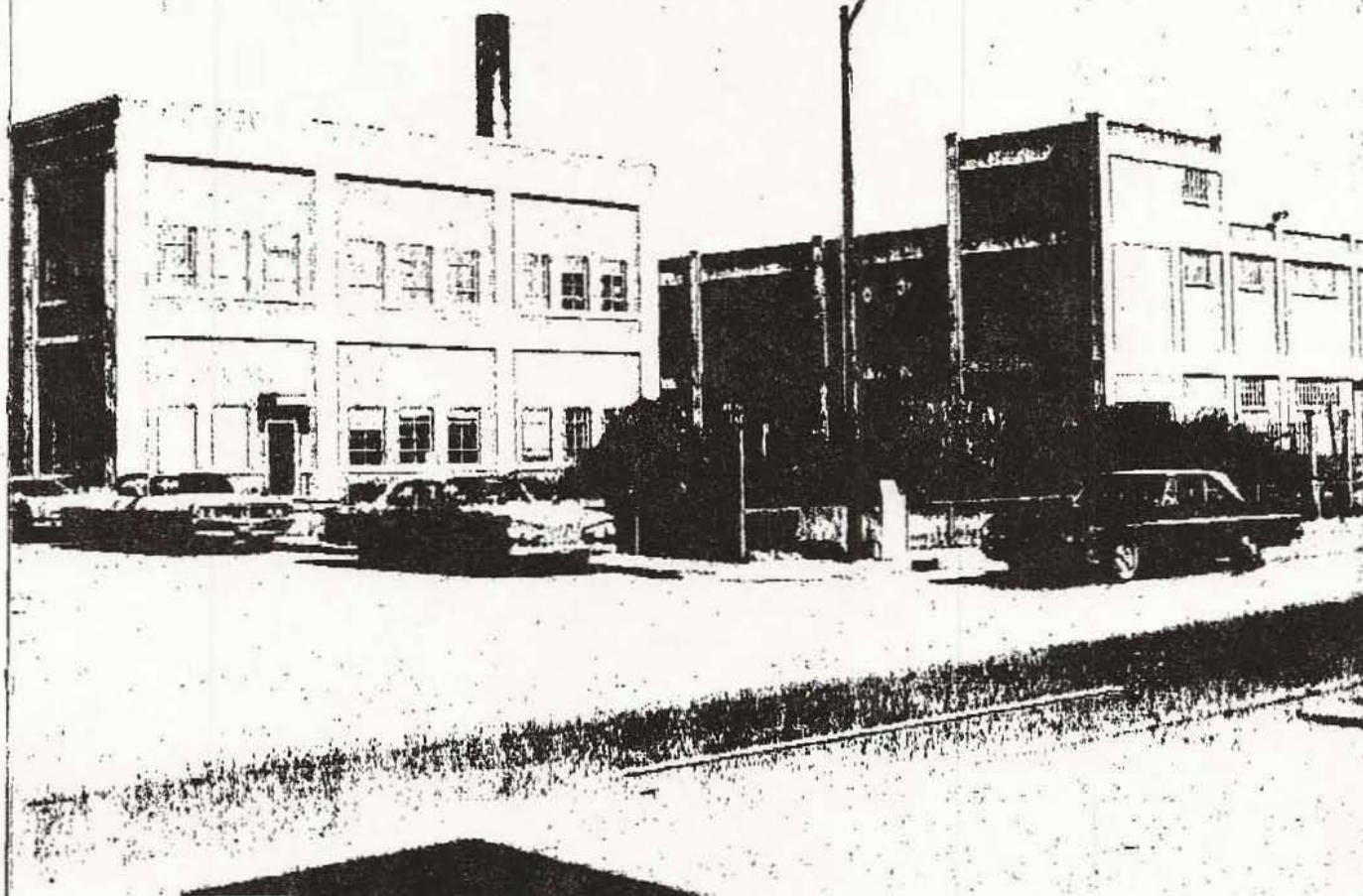
COATINGS SERVICE

Worldwide headquarters for the Coatings Service Department of Union Carbide's Linde Division are located at 1500 Polco Street in Speedway. This unit evolved from the Linde Acetylene Research Department established in 1919. At that time, lab personnel were engaged in studies of the behavior of acetylene under a wide variety of conditions, always with the goal of bringing about complete safety in the generation, handling, packaging and distribution of acetylene.

In 1922, with Charles Ness as general superintendent, the unit became known as the Speedway Laboratories and the scope of activities increased. The Lab moved from the Linde Speedway factory building at



Liquid Nitrogen Dewars and Refrigerators



16th and Main Streets in 1946 to a newly remodelled structure at 1245 Main Street which provides space for chemical and metallographic laboratories and other specialized units.

In 1953 the responsibilities of the Lab were expanded further. The growth of activity was such that it was necessary in 1956 to move into larger quarters in the presently occupied building on Polco Street.

It was during this period that two programs began which were to have major impact on Union Carbide Corporation's Speedway operations. One was a general program of new product development wherein personnel were actively engaged in a search of new products and processes which would utilize existing corporate resources. This program pioneered much of the cryogenic gas technology which is responsible for a major portion of Union Carbide Corporation's activity at Speedway today. The second was the Flame-Plating program from which evolved today's Coatings Service Department.

The Flame-Plating process had been discovered as

a result of investigation of acetylene detonation phenomena. Researchers' studies revealed that the tremendous force of these detonations could be turned into useful work. The technique developed from these studies, known as the Detonation-Gun process, and the plasma coating device developed in 1958 made possible the application of superior heat, wear and corrosion resistant metallic and ceramic coatings. These coatings have found wide use on critical applications in jet engines, textile and chemical processing equipment and many other areas.

The Speedway Laboratories changed names again in 1967 to become the Coatings Service Department. Joseph R. Clark is the current general manager. There are 14 plants strategically located at industrial centers throughout the world applying these coatings as a service for a wide array of customers. Seven of the plants are in the United States, with an eighth currently being constructed. The department employs 250 people at the Speedway location.