★ McKECHNIES OF BELL BLOCK ★

Acc. no. 142732

Prime Minister to open new plant tomorrow

A NEW chapter in Taranaki industrial history will be written tomorrow when McKechnie Brothers (N.Z.) Ltd's new Bell Block extrusion plant—the largest in New Zealand—is officially opened by the Prime Minister, Mr Holyoake.

The throbbing power of the streamlined factory represents a total saving in overseas exchange of nearly £2,000,000.

The 150,000 sq ft plant has been laid out with an eye to latest overseas designs and is being developed into an operation which will be among the best of its kind.

It is anticipated that the private siding, linking the factory with the north-south railway line, will handle about 15,000 tons of brass, aluminium and copper — in and out — annually.

The company employs a staff of about 290, making it the biggest employer in Taranaki and one of the largest factories in New Zealand outside the four main centres.

The New Zealand company was registered at New Plymouth in 1951 and started production at its Carrington Rd site with the extrusion of brass and copper rods and sections, using a 1200-ton capacity press.

Whole of N.Z.

At this stage the bulk of the country's requirements of brass rods was imported —some of it from McKechnies in England — but over the years the New Plymouth company has expanded its capacity and now supplies the whole of New Zealand needs.

This growth can be ascribed in part to the company's particularly intimate knowledge of the requirements of manufacturers, and many special alloys have been developed as a result of co-operation with them.

An interesting feature of the brass industry is that a very large percentage of the raw materials required is purchased within the country in the form af selected scrap. As a result, about 90 per cent of the product value arises in New Zealand.

The industry could, therefore, almost be regarded as a primary industry.

The production of aluminium rods and sections began in 1959 with the purchase of a further extrusion press of 1500 tons capacity and associated equipment.

At this time the usage of aluminium in New Zealand was very small indeed on a per capita basis, compared with other developed countries, and what was being used was imported.

The development of the market for a very wide range of uses was rapid, however, following on the establishment of McKechnie's plant and the manufacture of many hundreds of extrusion dies in its well-equipped die shop.

The company's faith in this new development was justified.

Third press

In 1964 a third extrusion press — this time of 2400 tons' capacity — was installed.

New Plymouth now supplies a very substantial part of the country's aluminium requirements.

In 1961 it was decided that the 10-acre site at Carrington Road would be inadequate to accommodate the company's rapid growth. A 58-acre site was purchased at Bell Block and the present factory was started in 1963.

The company prides itself on its excellent employee relationships. The wellbeing of the staff, and the meal, sporting and social amenities are, without question, among the best in New Zealand.

The company pays considerable attention to safety (this is very apparent after a tour through the factory) and two full-time staff members are employed to maintain and improve standards. An excellently equipped clinic with a full-time nurse is available.

McKechnie Brothers of New Plymouth is a member of the McKechnie Group of Companies, whose locations and products in the United Kingdom and South Africa are:

- Widnes, Lancashire (headquarters) — copper refining, copper sulphate, copper powder lithopone.
- Aldridge, Birmingham —brass, copper, aluminium and other extrusions, and casting ingots.
- Stratford, London — solder and type metal, anti-friction metal and white-metal alloys.
- Germiston, South Africa — brass and copper extrusions, strip, sheet, tubes and casting ingots, aluminium extrusions and sheet, copper refining.

The parent company was founded over 90 years ago and today, apart from its other activities, is one of the largest and best known non-ferrous metal extruders in the United Kingdom.

Vacant by end of year

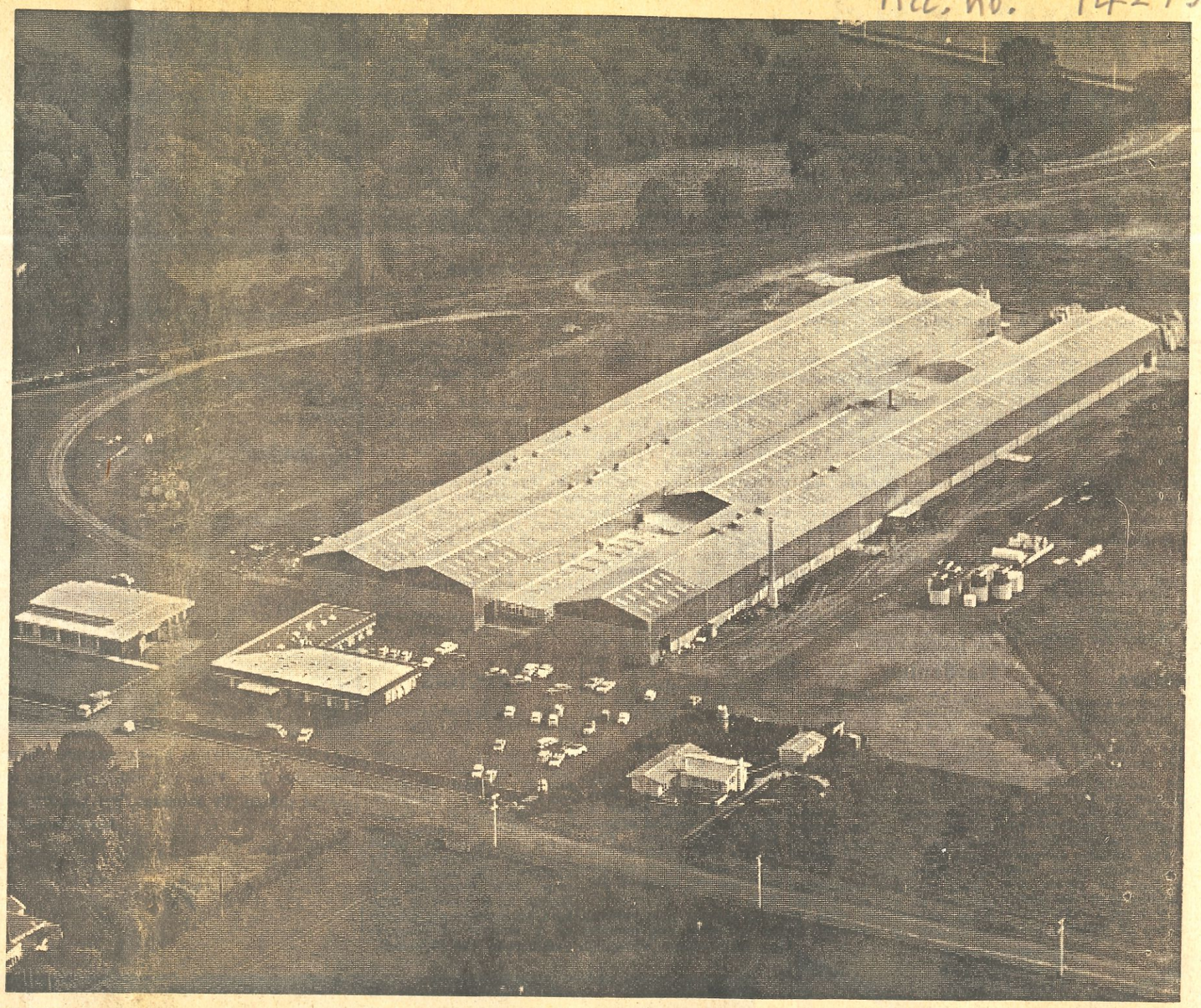
McKechnie Brothers' Carrington Rd, New Plymouth factory should be vacant by the end of the year, according to the company's Director Marketing, Mr T. C. N. Young.

There is still a small amount of equipment in the factory and this will be withdrawn gradually, as convenience permits.

The complete administration staff should be in their new Bell Block offices by the end of this month.

Long service

Only two of the team which came out from England to establish McKechnie Brothers' plant at New Plymouth are still with the company. They are Messrs T. W. Burbidge (production superintendent) and W. Gash (chief chemist), who have served with McKechnies for over 25 years.



McKECHNIE BROTHERS (N.Z.) Ltd's new plant in the Bell Block industrial zone. The factory is really divided into three parts—the big brass mill on the left, the service department on a lower elevation in the centre and the aluminium mill on the right. The service section contains the die shop, maintenance workshop, boxmaking department, stores, sub station, locker room and conveniences, tea room, offices and first aid room. In front of the plant in two separate buildings are the dining room (left) and the administration block and laboratories (right), and a large car park. Sweeping in on an arc is the company's private siding, which joins the main railway line running at an angle towards the right top of the picture. The thoroughfare at the bottom of the photograph is Paraiti Rd, and the one visible at the top is Henwood Rd, which leads towards Tarurutangi and Hillsborough.

A DISPLAY WINDOW by McKECHNIES

★ McKechnies' new factory has fine layout and amenities ★

SUPERBLY laid-out plant and fine amenities and conditions for the staff make McKechnie Brothers (N.Z.) Ltd's new Bell Block factory one of the most up-to-date in New Zealand.

The main manufacturing processes — from raw material to finished extrusion — are broadly common to both aluminium and brass.

Take the aluminium mill for example. The material comes into the factory in the form of imported ignots.

The ignots are unloaded off the company's private siding and stacked at the northern end of the mill, while scrap arising in the mill is remelted in an oil fired furnace.

When the melting-down has been completed, the material is poured into a holding furnace and then into moulds for casting as billets.

Pressure

The billets are passed into the billet-heating furnace, which heats them up to the correct temperature, depending on the type of alloy.

The log-type chunks of aluminium are then slipped into the extrusion press; a hydraulically - operated ram nudges, relentlessly forward and with fantastic pressure — sometimes more than 2000 tons — forces the white-billet to deform plastically through a hign-tensile steel die or pattern, which dictates what form the extruded metal will take, whether it be pipe, various types of decorative trims or balustrading and window frames.

Dies are held for more than 2000 different shapes and the possible variety is unlimited. Perhaps 20 or even 40 may be needed for one singe Government building order.

The newly-extruded sections are placed on cooling racks, locked into position and straightened or lengthened. The operators know just what tension to apply for the size and alloy of each piece of metal.

The lengths are then cut up on a circular saw and stored on stillages, or special holding racks.

Hardening

An overhead crane lifts the stillages and carries them down to the electric ageing furnace, where the extruded metal is hardened for a given time — usually about 7½ hours—at a controlled temperature.

The strips are finally packed into wooden boxes in the warehouse department at the end of the mill, ready for transportation.

Five full-time carpenters turn out an average of 100 boxes of varying sizes a week and go through a 40,000 ft. of one-inch timber a month.

The brass mill covers 100,000 sq. ft. of continous floor space in the 150,000 sq. ft. plant.

The process used in brass and copper extrusion is fairly similar to that of aluminium. The metal cools before being drawn or formed to shape and size, and reeled for straightness.

It is not usual, on the other hand, to cold draw aluminium extruded sections.

All the company's wire drawing is carried out in the brass mill. The metal is extruded down to a certain size and then passed through a lubricated cold die which draws it out. This process might go on six times before the wire is down to the size required.

Patterns

The nerve centre of the plant, the die shop or toolroom, is situated in the service department between the two mills. Here a pattern is drawn on a blank, thick steel disc, and then cut out on milling machines and lathes.

Small dies are placed in the bottom of a kerosen-filled tank, a current is turned on and virtually corrodes out the pattern required.

The metal now has to be hardened to withstand the pressure to which it will ultimately be subjected. Cold dies are placed in an electric furnace, and dies for the presses go into the salt-bath furnaces, where the temperature exceeds 1000 degrees centigrade.

It can take up to 10½ hours of extreme heat and air blasting before a die can be termed proper high-tensile steel. The quality and finish of the extrusions depend on the accuracy and design of the dies.

The service strip between the two mills also includes the maintenance workshop, stores room, conveniences, tea room, boxmaking department and carpenters' workshop, the locker room and sub-station.

The administration block is spacious and well-lit, with central heating for winter. Aluminium is used extensively and the panelling is in teak, mahogany and walnut.

A staff library has been provided and all offices are large and attractive. Teak panelling rises to door height in the well-furnished boardroom.

Laboratories

This block also houses the company's two laboratories.

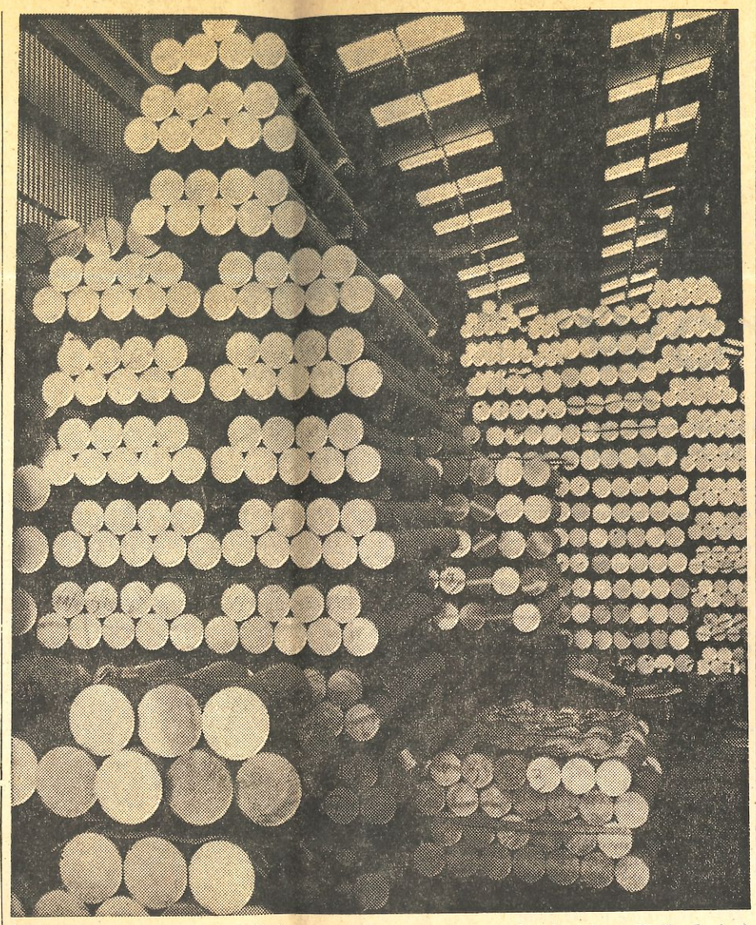
The analytical laboratory examines all raw materials and assays all metals produced.

The metallurgical laboratory maintains technical control of all extruded products so that the metals will, at all times, meet the specific requirements requested by the customer. It offers a technical service to customers and consults with them on design and finishing operations in order that the best results may be obtained from extrusions. It also carries out technical development programmes to determine better alloys.

Directors

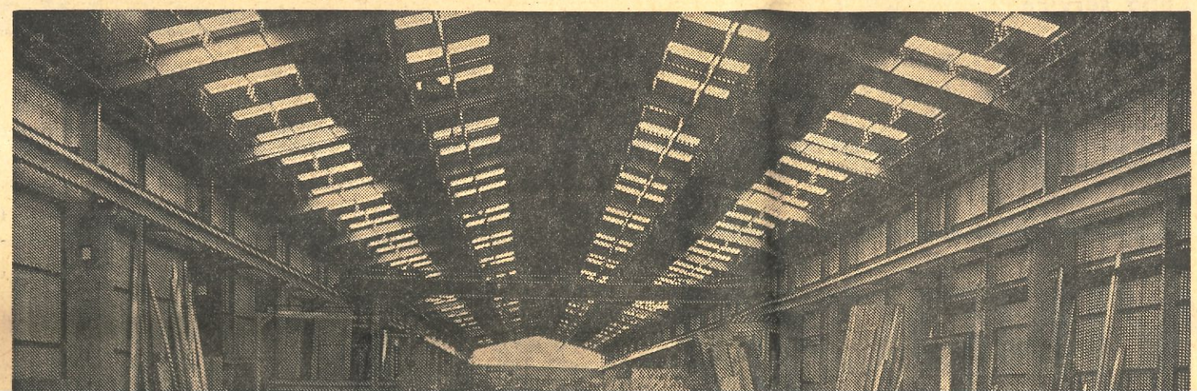
The directors of McKechnie Brothers (N.Z.) Ltd are: Messrs C. H. Wynyard (chairman), J. B. Glasgow (deputy-chairman), J. A. Andrew (United Kingdom company), K. C. Campbell, S. M. Marsden, P. J. Sukolski and T. C. N. Young.

All the directors, apart from Mr Andrew and Mr Campbell (Wellington), are from New Plymouth. Although he is based in England, Mr Andrew has attended a number of company meetings in New Plymouth.



STACKS of aluminium billets awaiting extrusion at the head of McKechnies' production line. They will ultimately turn out as door tracks, window frames, scaffold tubing, Tv antennae, bus and truck bodies, bridge rails or even wallboard mouldings.

★ ★



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LOOKING down the aluminium mill from the end of the production line at McKechnies' Bell Block factory. The boxes in the foreground are used to pack the metal sections.

300 at a sitting

One of the features of McKechnies' Bell Block factory is the 3300 sq ft dining room, which can accommodate 300 workers at a sitting.

Three-course meals are served straight over the counter from special heating bowls.

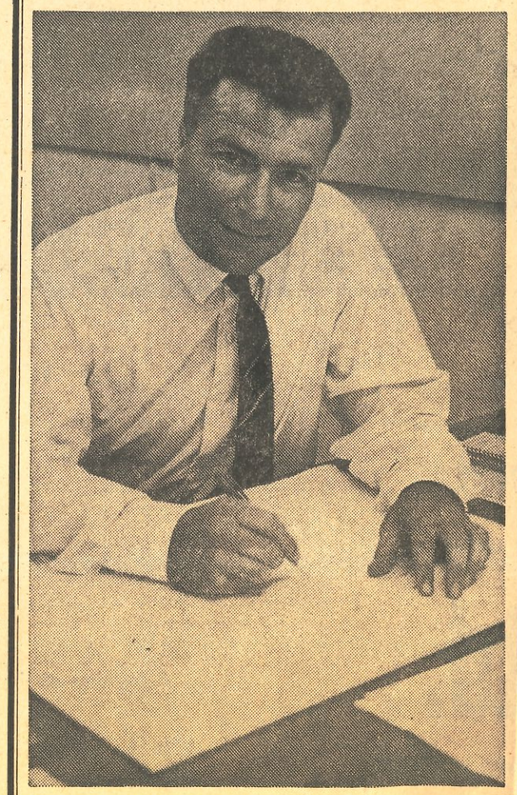
The kitchen is superbly equipped, with liberal use of stainless steel, and every modern convenience.

Staff cabarets and dances and all social club activities are held in the dining room.

The room is lined with pine panelling and softboard and has one complete wall in aluminium-framed glass doors.

The block is separate from the factory and has a very attractive Roman brick exterior, off-setting the giant grey buildings of the plant.

The administration and laboratory block next to the cafeteria is similar in appearance.



MR. P. J. SUKOLSKI, McKechnies' Bell Block factory manager, in the new dining room.

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Something to look up to!

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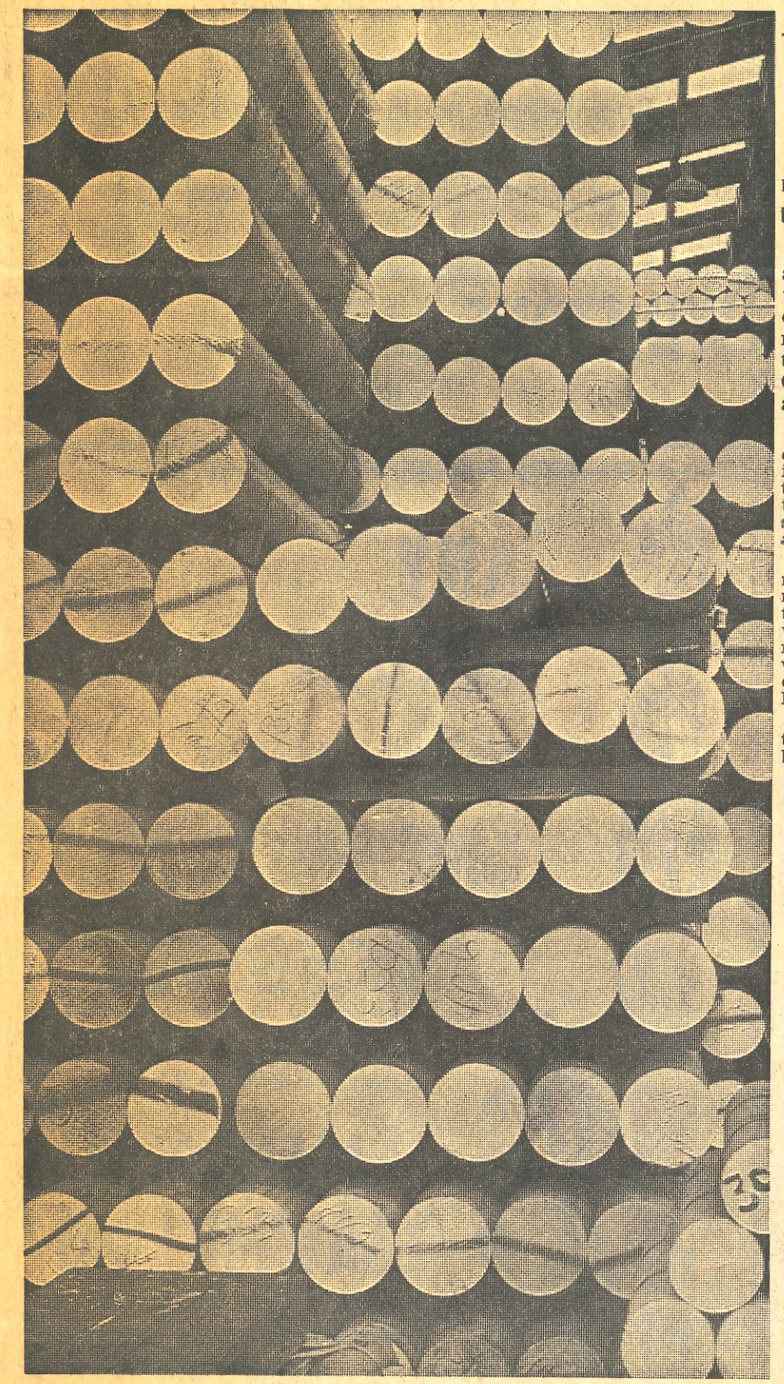
NEW PLYMOUTH SOUTH ROAD

Acc.no. 142140

Prime Minister Opens McKechnie Factory Today

N.Z.'s Largest Metal Extrusion Plant Now At Bell Block

New Zealand's largest metal extrusion plant, the giant Bell Block, New Plymouth, factory of McKechnie Brothers (N.Z.) Ltd., will be officially opened by the Prime Minister, Mr. K. J. Holyoake, this afternoon.



Mr. Holyoake will press a button to start one of the factory's three huge extrusion presses and mark the completion of the company's move from Carrington Road to a 57-acre site at Bell Block.

McKechnie's are the only extruder of copper and brass in New Zealand and also extrude aluminium. The factory's output represents a saving of almost £2,000,000 a year in overseas funds.

The brass industry can almost be regarded as a primary industry as the operation is based on scrap bought within the country. As a result, 90 per cent. of the value of the finished products arises within New Zealand.

McKechnie's produce more than 50 alloys of aluminium, brass and copper.

With a staff approaching 300, the factory is the largest private employer at New Plymouth. Staff amenities at the new factory are first class and care has been taken to provide as much natural lighting as possible. Even the pastel green colour in which all the machinery in the factory has been painted indicates the effort to make working conditions as pleasant as possible.

By moving to Bell Block, McKechnie's have established a precedent which is likely to be followed by many other local manufacturers. Another factory already has sprung up near the giant plant and plans have been announced for the construction of a third heavy industrial unit at Paraiti Road.

Extensive use of Port Taranaki is made by the company. The company imports all its aluminium ingots and zinc for brass production through the port. Scrap metal from the South Island comes by sea.

BRASS ROD

On occasions the company exports brass rod to many parts of the world. This too, goes through the port.

The factory is sited alongside the railway line and has a private siding which handles about 15,000 tons of metal a year.

McKechnie's parent company is one of the largest independent extruders in the United Kingdom. Founded more than 90 years ago, it has its headquarters at Widnes, Lancashire.

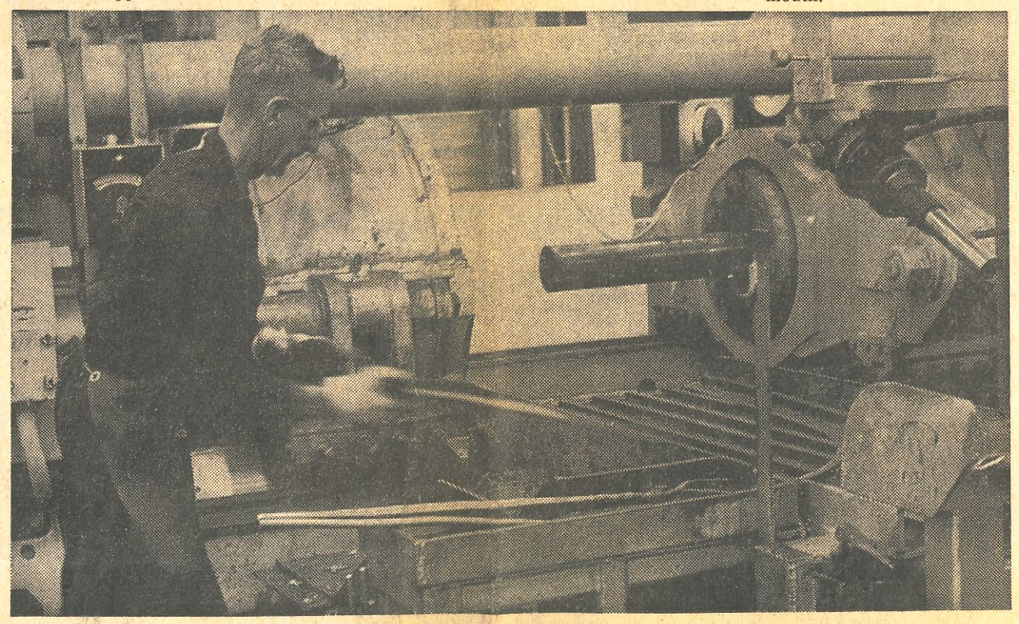
The group also operates major plants at Birmingham and Stratford, London, and at Germiston in South Africa.

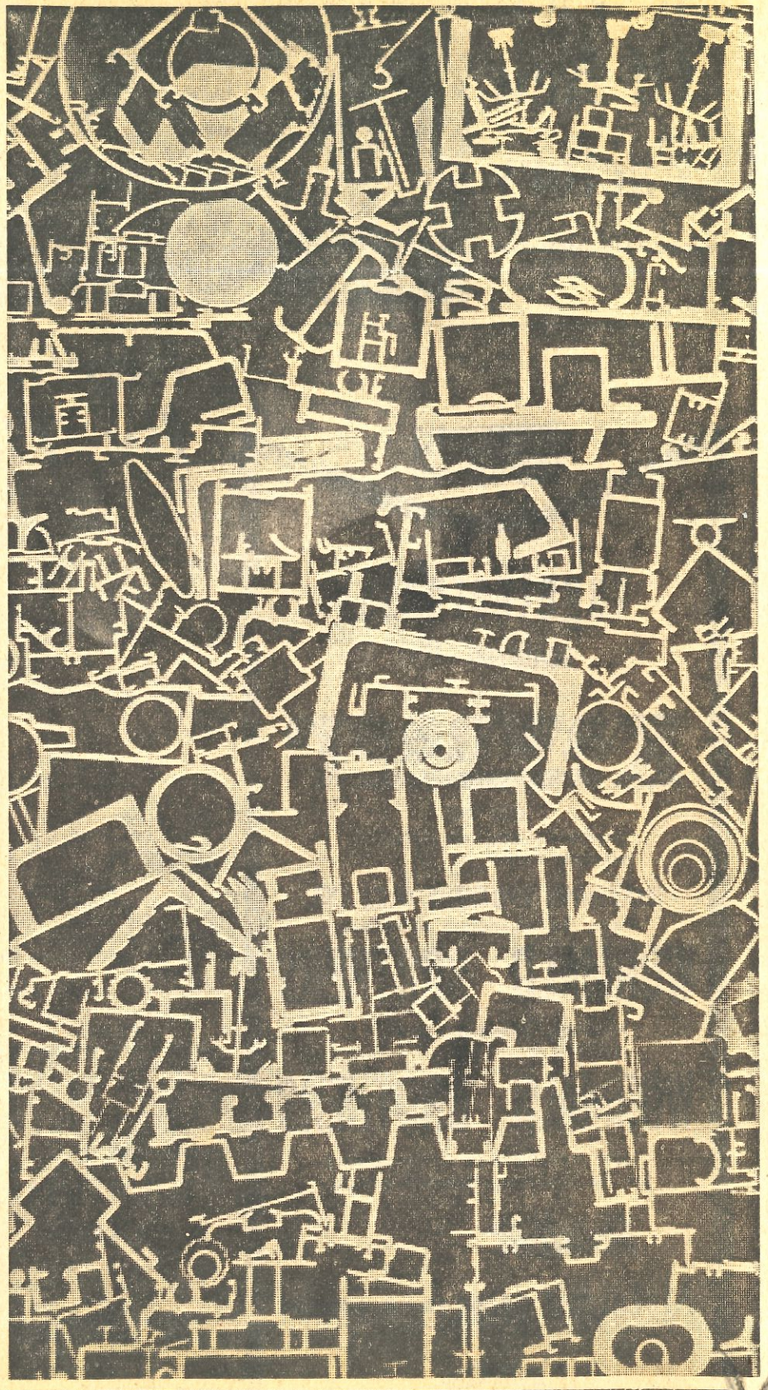
The chairman of the group, Mr. J. D. McKechnie, has flown from England for the opening.

AIRCRAFT

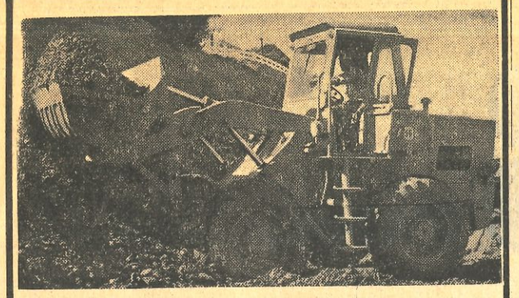
Six DC3 aircraft have been chartered to bring guests from all over New Zealand to the factory opening. The planes will fly in to New Plymouth airport this morning from Auckland and Wellington bringing manufacturers and the company's clients. Of the 250 guests who will attend the ceremony, more than 200 will come from outside New Plymouth.

Pictures on this page symbolise the operations of McKechnie's factory. Left, stacks of aluminium logs as they are imported to New Zealand. Below, one of the giant presses, which squeeze the metal like toothpaste. Right, some of the hundreds of shapes which the presses produce.





A DISPLAY WINDOW by



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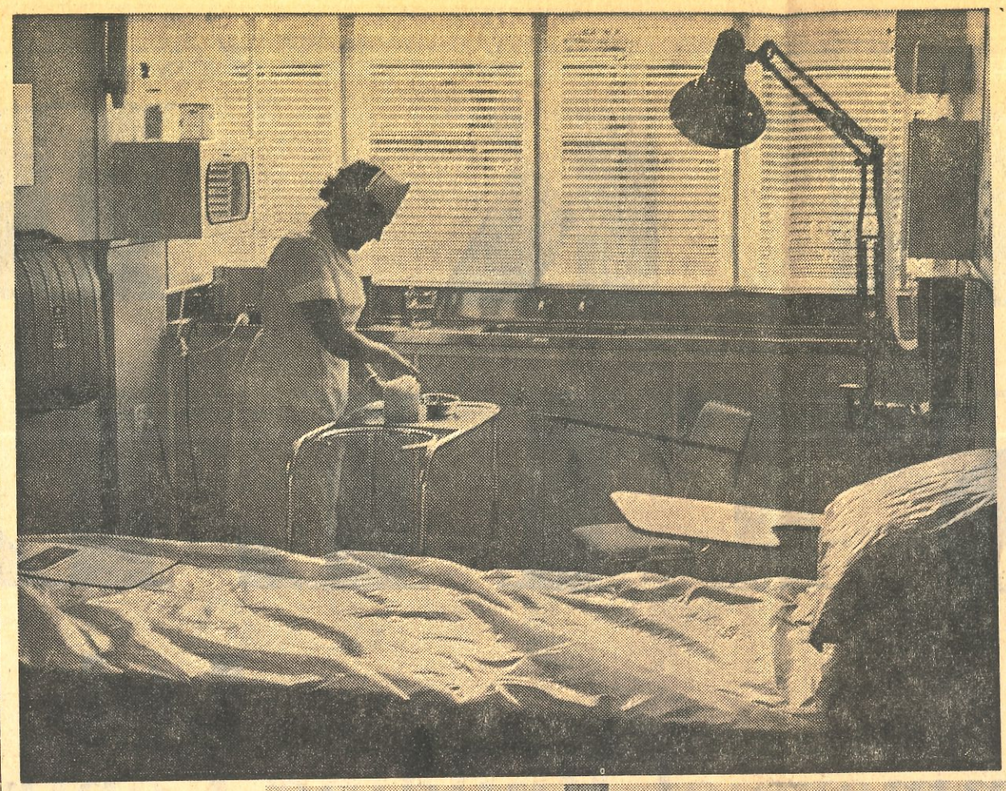
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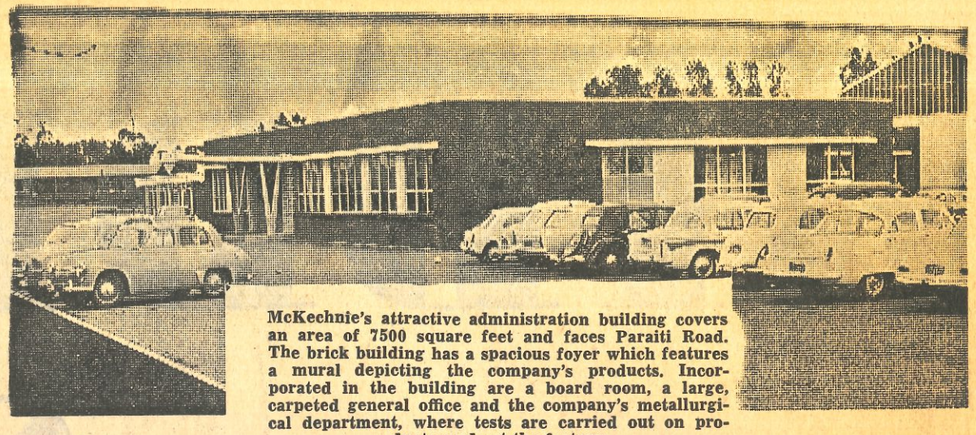
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A feature of the new factory is its well-equipped first aid room. Pictured is Mrs O. N. Corrie, a registered nurse who is in charge of the room.

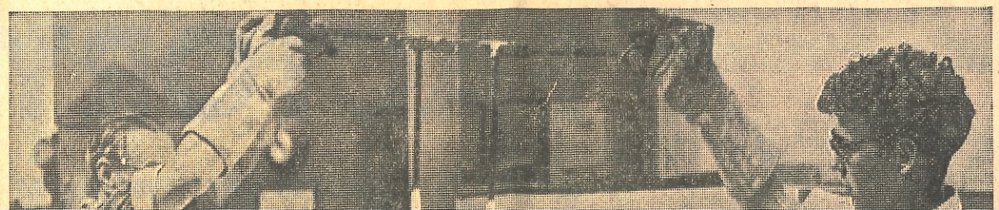


McKechnie's attractive administration building covers an area of 7500 square feet and faces Paraiti Road. The brick building has a spacious foyer which features a mural depicting the company's products. Incorporated in the building are a board room, a large, carpeted general office and the company's metallurgical department, where tests are carried out on products made at the factory.

There's more to a factory than just machines, as these pictures indicate



Over 90 three-course meals and many more snacks are served each day in the attractive dining room pictured above which can seat 180 people in comfort. The room is open 12 hours a day and serves four dif ferent meals during that time to staff who work shifts. The kitchen is staffed by eight people.



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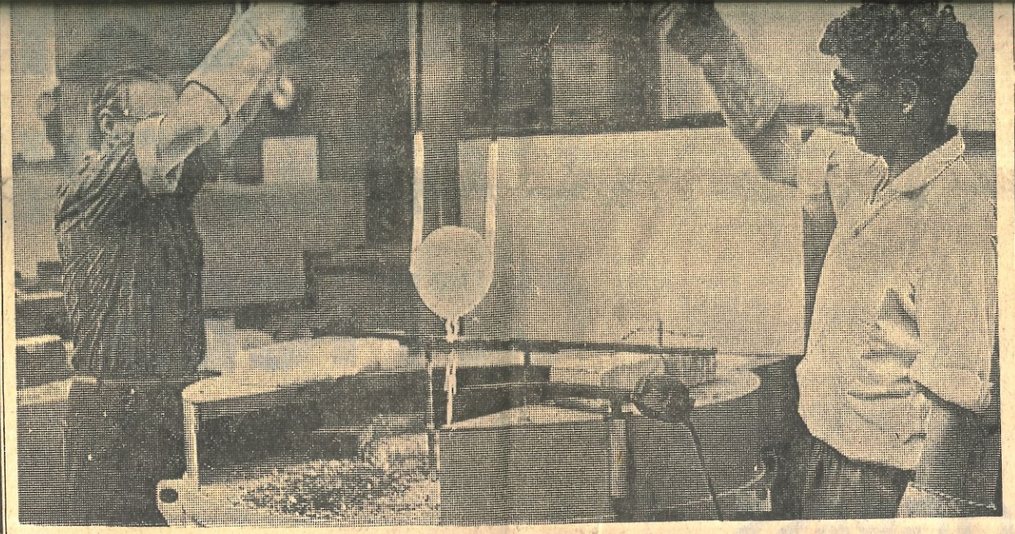
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A die glows with heat as it is taken from molten salt at 1185 degrees centigrade during a tempering process at McKechnie's factory. Manufacture of dies is one of the most exacting tasks at the factory. They are made from high-quality steel with a content of up to nine per cent. tungsten for brass and copper dies and five per cent. chrome for extruding copper. When the dies have been made they are pre-heated in molten salt for two hours then heated in another bath at 1185 degrees for 18 minutes. The dies are then "quenched" at 560 degrees for 10 minutes and air blasted for a quarter of an hour. It takes over 10 hours to temper one die.

Company's Proud Contribution

Directors of McKechnie's parent company in England first considered the possibility of establishing a New Zealand subsidiary in 1949 and McKechnie Brothers (N.Z.) Ltd. was incorporated two years later.

Initial capital of the company was £200,000 and the first directors were Messrs. W. Hayes, P. J. Ayckbourn and C. H. Wynyard.

The company's official history says the decision to build a factory to manufacture brass extrusions was because of the post-war development of secondary or manufacturing industries.

"Although at the time the market was relatively small, it was considered there was scope for rapid development by virtue of the New Zealand Government's policy towards the encouragement of manufacturing industries, coupled with the anticipated growth in population arising from the facilities offered to immigrants," the history says.

Careful consideration was given to the location of the plant and the city of New Plymouth was chosen because of its situation midway between the Auckland and Wellington markets and because of the availability of suitable labour.

"The labour turnover has, in fact, been relatively small compared with that of the main industrial centres," says the history.

"The advent of the company to this area has added to its prosperity and provided opportunities for people to work away from the hustle and bustle of city life. This has been appreciated by the civic authorities and we are proud to have contributed towards the industrialisation of this part of New Zealand, while maintaining its essential character."

The five-acre site on the city boundary was originally purchased in 1951 and steps were taken to erect buildings and instal plant. But the shipping strike in that year delayed the programme and it was not until August, 1953, that the first brass billet was extruded.

The company soon found its appraisal of the New Zealand market had been a conservative one and output progressively increased each year from its inception.

When McKechnie Brothers started extruding aluminium in 1959 the company had to increase its capacity, so another five acres of land were acquired and the original factory was considerably extended. By 1961 the demand for brass and aluminium extrusions had grown to such an extent that the directors had to start considering moving to another site.

BELL BLOCK

After surveying several sites, about 57 acres of land was purchased in 1963 at Bell Block, about five miles from the Carrington Road factory, which has an area of 68,000 square feet.

Building on the new land to provide factory space of 150,000 square feet began late in 1963 and the company started installing new equipment and transferring equipment from the old factory last year.

Extruded

The main manufacturing processes — from raw material to finished extrusion — are broadly common to both aluminium and brass.

These comprise:—

- Melting of metal in suitable furnaces, from which extrusion billets are cast under laboratory control to the required specification.
- Preheating of the cast billet to a critical temperature in a furnace, after which it is placed in the container of the extrusion press.
- Extrusion of the metal, whereby pressure from a hydraulically operated ram, attaining on occasions more than 2000 tons, forces it to deform plastically through a die to attain the desired shape. Dies are held for several thousand different shapes and the possible variety is unlimited. The metal is usually extruded in long lengths, and cut to suitable shorter lengths for further processing.
- Brass and copper extrusions are almost invariably cleaned after extrusion before being cold drawn or formed to size and shape, and reeled for straightness before being packed. It is not usual, on the other hand,

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whom we heartily congratulate on the opening of their new factory.

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