



RADIATION SHIELDING

Company Overview

Established in 1933, Castle Lead Works is Africa's largest manufacturer of lead products, with services ranging from lead-ingot manufacture to the installation of complete chemical plants.

Lead has developed into a modern material suitable for the needs of the new millennium in terms of both performance and economics. Castle Lead Works carries out its own research and development and has its own analytical laboratory with atomic absorption spectrometry capabilities.

The company has a first class safety record and is committed to its philosophy of environmental sensitivity, health, hygiene and safety.

Radiation Shielding

Lead, with its high atomic number, is the most efficient shield used against radiation emitted by Gamma Rays or Neutrons.



Castle Lead Works is a long-time supplier of radiation shielding to the Nuclear Energy Corporation of South Africa (formerly the Atomic Energy Corporation), as well as Eskom's Koeberg Power Station in the Cape and many hospitals and x-ray units countrywide.

The main advantages of lead in this application are:

- space savings
- passivity to neutrons
- saving in weight of shield
- cost savings

FACT SHEET



FACT SHEET

Types of shielding

- lead bricks
- sheet lead shielding
- transport containers and isotope pots

Methods of application

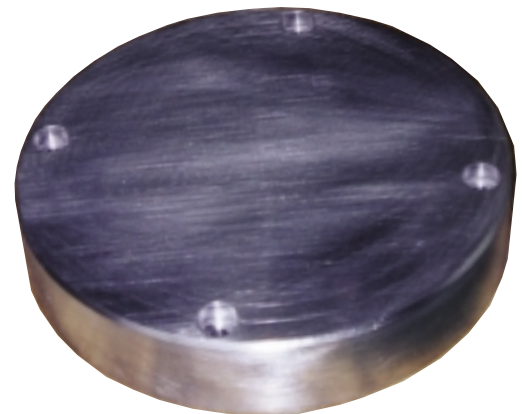
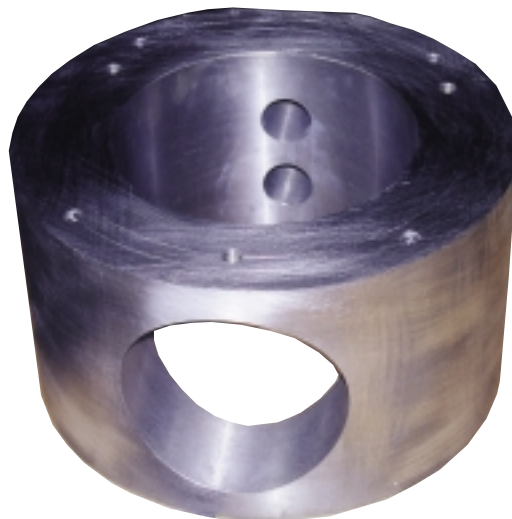
- sheet lead walls
- sheet lead floors and ceilings
- lead laminated panels
- lead additions to existing structures
- lead additions to doors, door frames, ducts, air-conditioning vents, etc.

Castle Lead Works has a well-established history of the manufacture of all types of industrial and medical radiation shielding applications.

Lead Fabrication Division

Castle Lead Works' Fabrication Division specialises in the lead lining of pressure vessels and the fabrication of mist precipitators in acid plants. Competent and well-trained lead burners operate this division.

Lead is ideal for many traditional applications, including roofing. However, the last few decades have seen the development of many more uses, such as sound insulation, corrosion protection and radiation shielding in x-ray laboratories and nuclear power stations.



**CASTLE
LEAD WORKS**

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