



120 TONNES RADIATION PROTECTION

A neutron radiation bunker made of lead, steel and boron carbide protects scientists at the research centre ANSTO against nuclear radiation.

The object

ANSTO is Australia's most important organisation in the sector of nuclear research. Facilities include the renowned Bragg Institute, which is primarily concerned with questions regarding neutron scattering and X-ray technology. Research is also carried out in a neutron guide hall where the neutron radiation bunker was installed.

The product

The 12 metre long neutron radiation bunker stops the radiation that is produced during physical experiments. Röhr + Stolberg produced 16 tunnel elements in two versions, each one weighing up to 10 tonnes. All parts were cast and milled or made of steel shells filled with lead. They were all bonded with boron carbide panels and painted for hygiene reasons.

The special features

Once Röhr + Stolberg won the worldwide tender for this project, each component was produced in Germany according to Australian standards. In total, approximately 110 tonnes lead and 10 tonnes steel were used in construction and then shipped to Australia.

The neutron radiation bunker in the neutron guide hall of the Bragg Institute (Fig. 1). It consists of 16 customer-specific tunnel elements (2 and 3). The lead elements were bonded with boron carbide (4).

The facts

Client:
ANSTO (Australian Nuclear Science and Technology Organisation)

Execution:
2013

Task:
Production of a complete neutron radiation bunker

Products:
16 customer-specific tunnel elements

Object size:
12 metres long, 120 tonnes in weight

Advantages of lead:
Reliable radiation protection due to high density

Contact

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