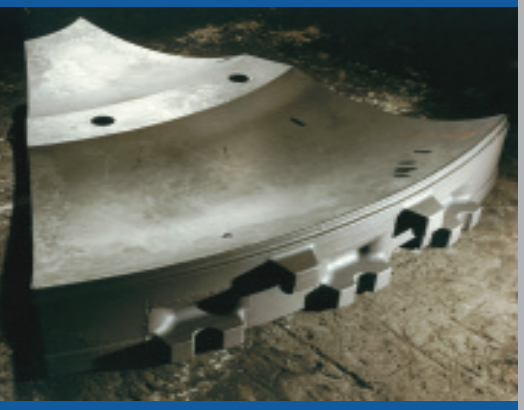
Wear Resistant Components

for the Cement Production Industry

BRADKEN®



Products and Technical support for wear components for the Cement Production Industry.

Bradken is the leading supplier of differentiated consumable products to the resources, power generation, cement and freight rail industries. Employing more than 3000 people in key international locations; Bradken's product range includes consumable parts, capital equipment and associated maintenance refurbishment services.

The company services its markets through five strategic divisions, Power and Cement, Mining, Mineral Processing, Rail and Industrial, supported by a network of eighteen manufacturing facilities across Australia, New Zealand and Europe.

At Bradken, we recognise that safety, the environment and quality are of critical importance. Bradken's Management Systems are based on International Quality System Standard ISO 9001 (2000) and International Environmental Standard ISO 14001.

Bradken is the world leader in the supply of wear components used in the Cement Production Industry and has been involved in the supply of parts for 50 years.

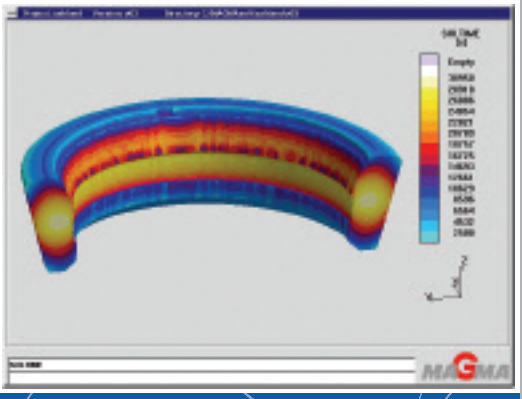
Products

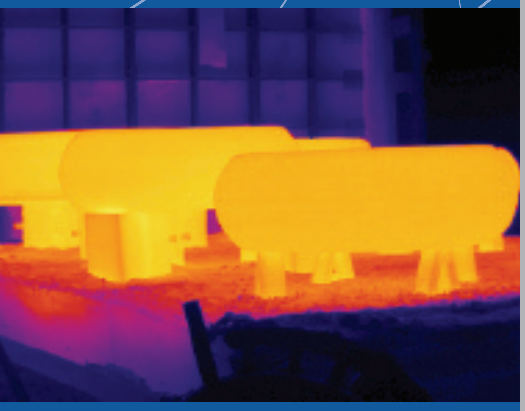
Bradken manufactures a wide range of wear resistant components for the Cement Production Industry. These parts feature heavily around limestone and coal pulverising mills and include most pulverising mill components. Bradken manufactures parts for most vertical and horizontal grinding mills including:

- Grinding Rings and Balls
- Roller Tyres and complete and segmented tables.
- Yokes
- Mill/Housing Liners
- Thrust Rings
- Ventilator Mill Blades and Liners
- Beater Wheel Mill
- Spiders
- Throat Rings

Bradken manaufactures a range of the above products for all mill types, including:

- MPS
- MBF
- LM
- EM
- CE / Raymond Bowl
- ATOX
- FRM
- OK





Product development

Bradkens Product Development team have helped existing customers with a range of technical issues, from extending wear life to improving handling efficiencies.

The product development team includes design engineers and metallurgists able to review, suggest and implement solutions for many wear issues found in cement production.

Design, Manufacture and Test Facilities

Bradken's worldwide manufacturing facilities have invested heavily in manufacturing technology and training to cater for the ever more demanding levels of quality, performance and reliability needed in our products. Production facilities include:

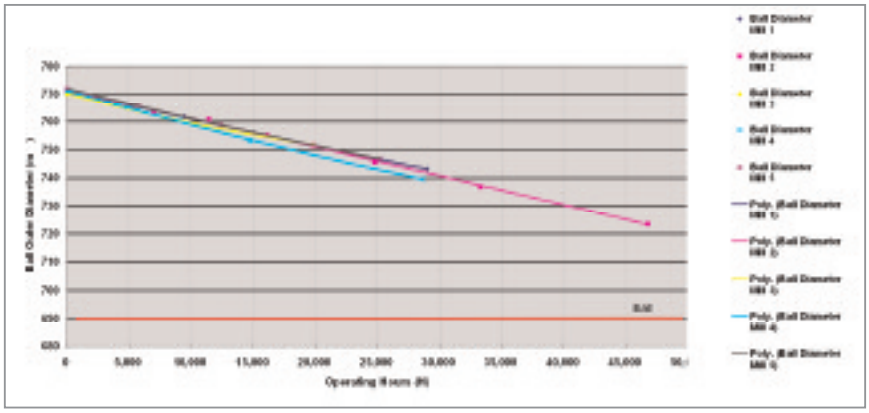
- Design office utilising 3-D modelling and casting simulation software.
- Capability to manufacture parts up to 5m in diameter and 20,000kg in weight.
- Specialist induction melting furnaces.
- Testing and analysis including spectographic analysis, NDT Testing, hardness, magnetic particle, ultrasonic, dimensional and visual checks.
- Gas fired heat treatment furnaces with centralised computer control.
- Fully self-contained machine shop utilising latest machining technology.

Wear Life of Pulverising Components

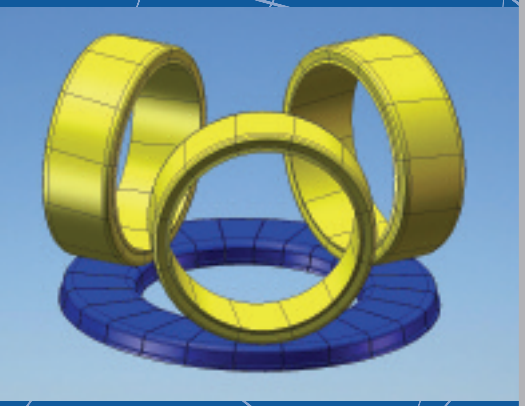
Bradken's many years of expertise can assist in maximising the wear life of grinding components.

There are many factors which can affect wear life of grinding components. Material factors include include HGI, Ash content, moisture, particle size and YGP for coal and silica and flint content for limestone. Grinding mill parameters include ram pressure, rotation speed, feed rates and maintenance practices. These vary greatly at each plant and grinding component life is considered on a plant by plant basis and bespoke solutions developed utilising Bradken's worldwide knowledge and experience.

The graph shows wear rates of grinding components in a coal grinding mill in Japan. The data covers 5 different mills and demonstrates consistent mill control and consistent wear rates achieved by using Bradken's unique materials. The graph shows wear achieved to date and can be extended to predict an accurate life of parts. In this example the grinding components will achieve in excess of 60,000 hours. Coal analysis for these mills shows a HGI of 45-50, ash of 10-13% and moisture of 8-10%.



Similar data for the grinding rings also demonstrates mill control, even wear rates and an anticipated life of the rings to match the balls.



ISO9001: FM 01688
ISO14001: EMS 89701

Quality & Environmental

As an ISO 9001 accredited manufacturer, our mission is to help your company increase profitability by providing high quality, technically superior engineered products and support services.

Full traceability, from cast-on identification through internal or third party certification to manufacturing records, forms a key element of the technical support provided for all products throughout their service lives.

As a leading supplier Bradken is commited to quality and service through the constant improvement of both its manufacturing techniques and the expertise of its workforce.

Bradken recognises the importance of environmental protection and health and safety. All our sites have or are working towards the Environmental Standard BS EN ISO 14001.


Certificate of Registration

BRADKEN

In summary Bradken offers

Superior quality wear resistant components for the Cement Production Industry.

A product development service to provide cost effective solutions to wear life and handling issues.

World class manufacturing and testing facilities utilising the latest technology.

AN ISO9001 quality approved supplier, commited to environmental protection.

Regional service and dedicated customer support.

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