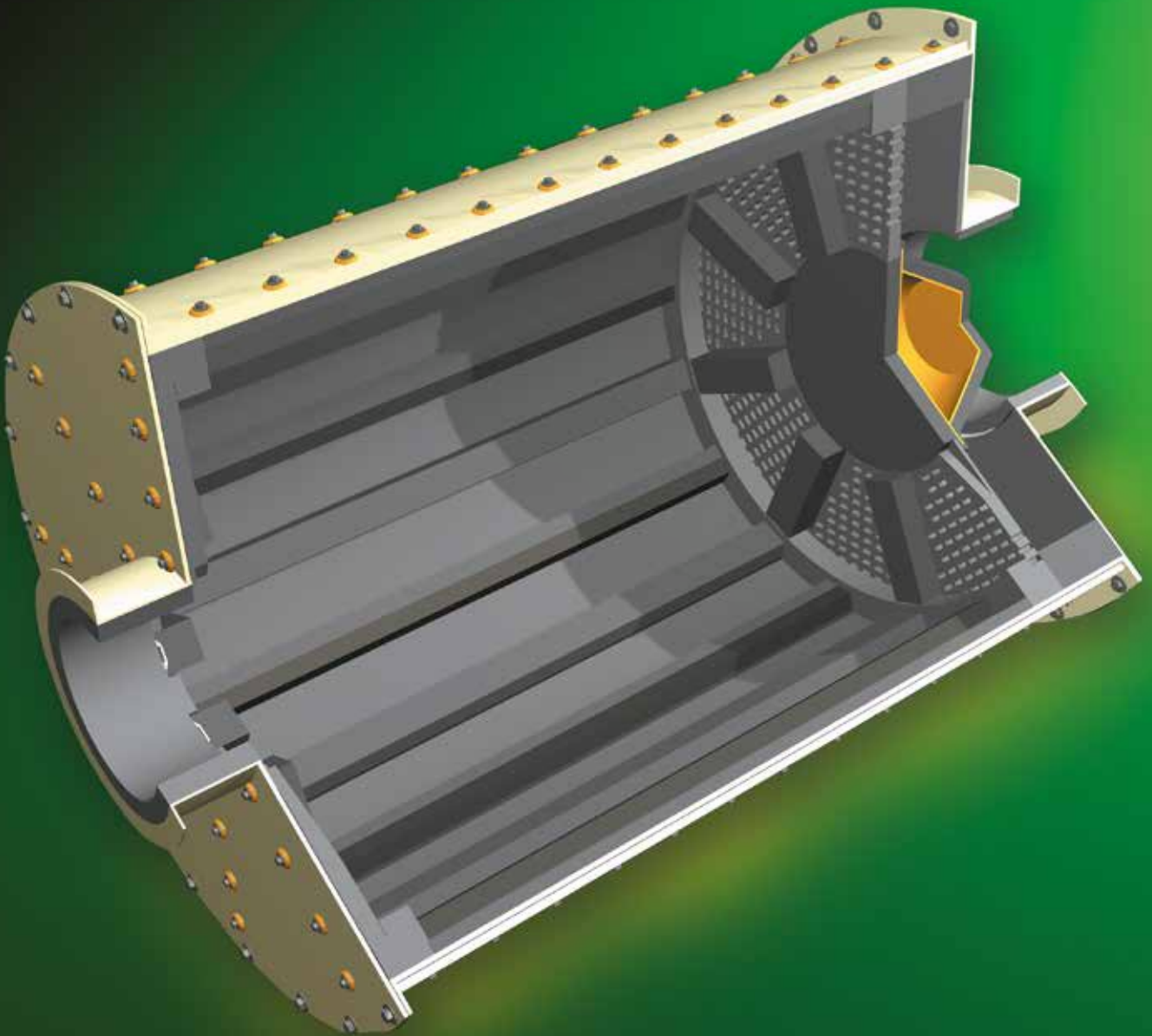


MULTOTEC

Mill and Scrubber Linings



Your Specialist in Rubber Wear Linings

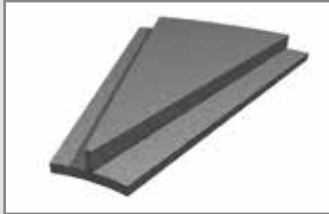


Mill and Scrubber Linings



1. Shell Plates*

The thickness of the Shell Plates can vary in order to increase mill capacity and/or liner life. The width is designed for optimum protection from the Lifter Bars.



3. Head Plates*

Rubber Head Plates are available in various designs to combat sliding abrasion. Head Plates are designed to facilitate ease of installation and handling.



5. Pulp Lifters

Rubber lined Pulp Lifters are designed to provide the correct discharge of the pulp through the mill in order to minimise 'bottle-necks'.



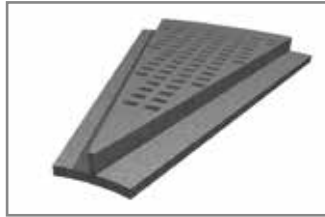
7. Centre Cones

Centre Cones can be designed in segments for ease of installation.



2. Lifter Bars*

Lifter Bars are available in a range of widths, heights and rubber or composite profiles. Lifter Bars incorporating a steel insert are designed to provide maximum impact and abrasion resistance. MultoMet™ Lifter Bars have 'hardox' quenched and tempered plates whilst Heavy Duty MultoMet™ Lifter Bars have castings for larger ball mills and SAG mills.



4. Grate Plates

Heavy-duty Grate Plate designs are available for larger mills. The elastic property of rubber allows for smaller slots than steel grates whilst eliminating blinding problems. Available in a range of aperture sizes.



6. Trunnion & Bell Mouth Liners

Trunnion Liners are manufactured from a fabricated steel base, which are then rubber lined. Loose steel-backed rubber liners are also used in larger Trunnion and Bell Mouth linings.



8. Filling & Corner Segments

Filling and Corner Segments are designed to lock the Head Plates and Grate Plates into position and stop material racing in the corners.

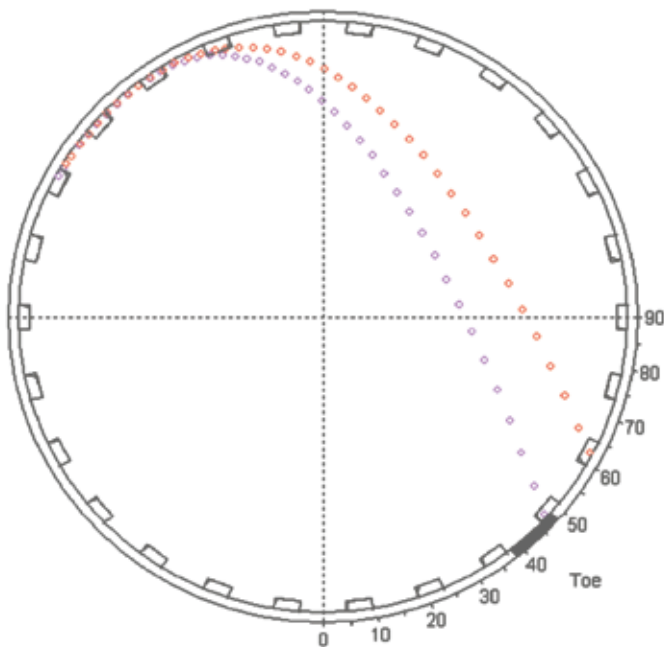
*A range of rubber and composite designs are available.



After Sales Service

Mill Liner Design

Multotec uses computer simulation to provide optimum liner configuration that extends liner life and increases mill productivity.



Client Data	
Ore Type	Oxide
Mill Type	SAG/Ball
Feed Size	70% - 100 mm (max)
Product Size	90% passing 150 micron
Feed Rate	100 Ton (dry)
Circulating Load	200% of feed
Mill Temperature	Ambient

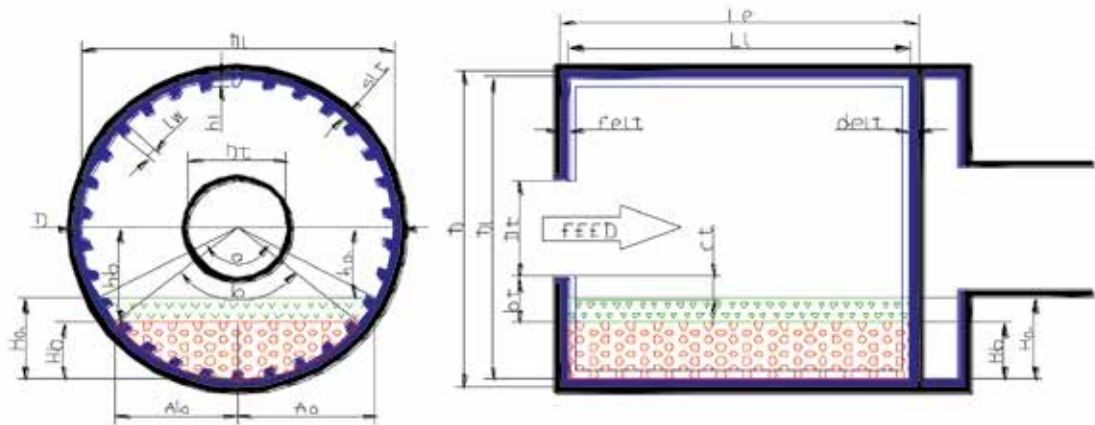
Mill Data	
Mill Diameter	3 960 mm
Mill Length	5 200 mm
No. of Rows	26
Mill Filing	30%
Media Diameter	50 mm

Lifter Specification

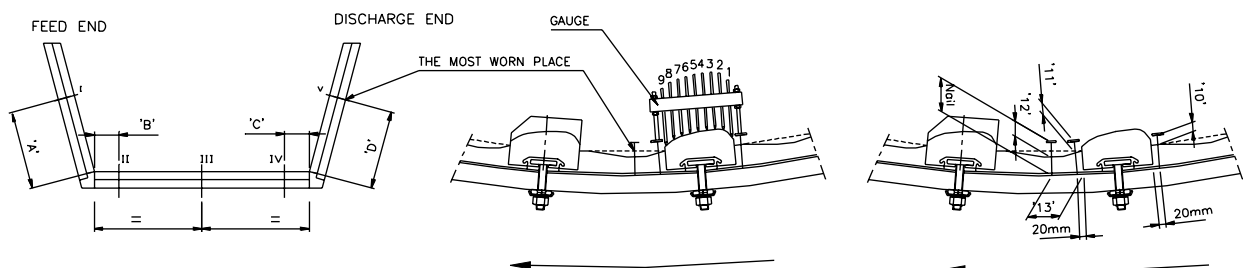
Units' mm & % crit. angle from base

	Width	Height	Angle°	H2A	S/H	Speed	Plate
●	165	75	75	25	4.02	69.4	65
●	165	75	90	75	3.97	69.4	65

Charge Volume Calculations



Mill Lining Inspections and Report





Mill/Scrubber Linings versus Steel

- Longer life due to less wear results in substantial cost savings.
- Lower product weight reduces downtime during installation and replacement, improving production while eliminating the need for a liner handler.
- Resilient material enables easy and safe installation as well as trouble free handling which reduces risk of injuries.
- Excellent sealing properties that reduce the risk of flushing behind lining and minimise gold lock up.
- Reduced blinding of Grate Plates resulting in increased throughput.

Noise Reducing Properties of Rubber

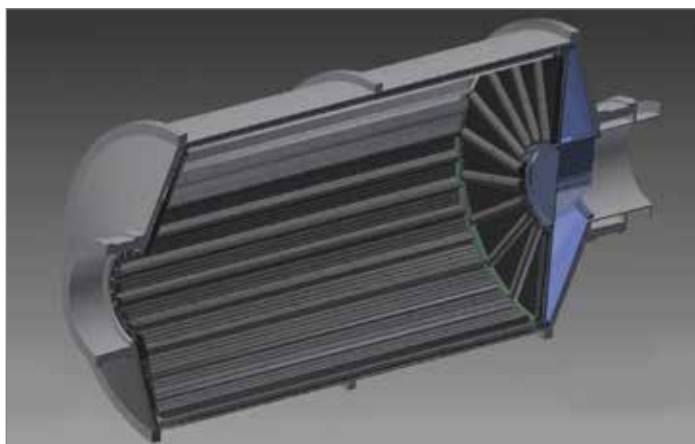
Rubber has the ability to absorb energy because it has high inner losses when exposed to dynamic strains. This means that the sound from a rubber surface decreases considerably. A rubber thickness of 40 mm or more reduces noise levels to the point where the use of earplugs is avoided.



Hawkeye™

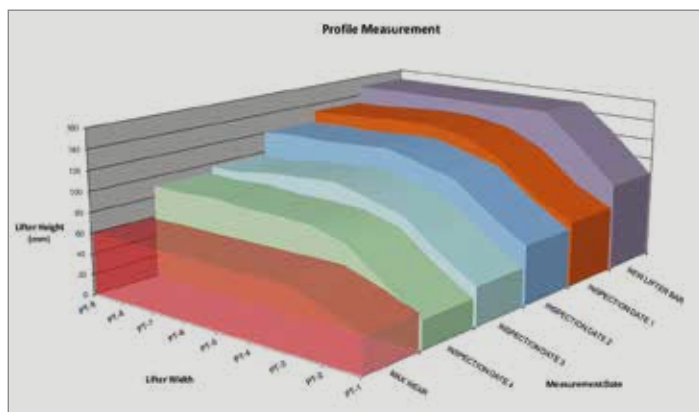
Hawkeye™ is a web-based system that has been developed at Multotec to capture and record wear and life data for Mill Liners. Measuring liner wear during operation and capturing this data on Hawkeye™ facilitates the accurate prediction of the next change out date as well as reduces the chances of unplanned stoppages.

Historical databases of liner life vs. tonnage treated can be analysed to determine design changes which will extend life. As the system is web-based, mine personnel have access to the information at any time to assist with activities such as order placement and budgeting.



Extensive Plant Monitoring

- Multotec's system for wear monitoring and liner life analysis
- Web-based so mine personnel have quick and easy access

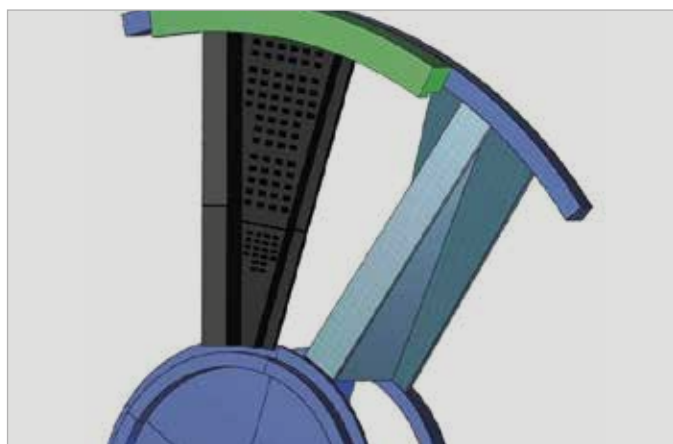


Reduced Downtime

- Indicates where design changes can be made to extend liner life
- Prompts inspections
- Reduces chances of unplanned stoppages

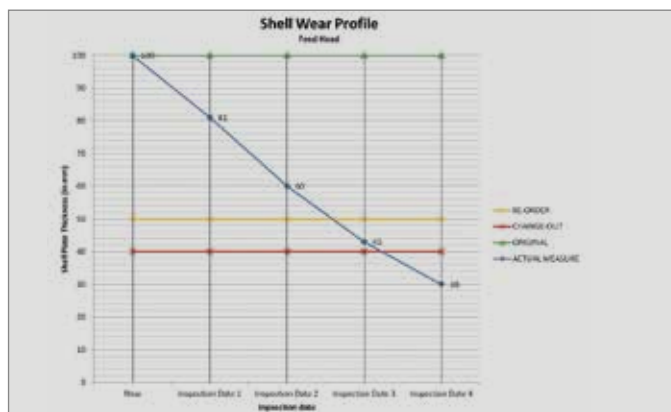
Additional Services

- AutoCAD and Inventor 3D Designs
- PLC controlled systems ensure consistent quality
- Highly qualified technical staff available to measure Mills/Scrubbers on site and to assist during the installation to ensure precise fitment of liners
- Multotec has the in-house process knowledge to analyse the Milling Circuit and optimise your production capabilities
- Multotec IBD (International Business Development) teams operate throughout Africa, adding value to a vast range of customers by reducing downtime and ultimately optimising plant efficiency with technical and back-up services, including Mill or Scrubber Liner inspections



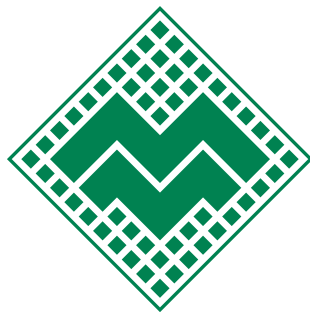
Efficient Planning

- Simple item display and mine stock codes enable easy ordering
- Comparative test liners are displayed to show longevity benefits of Multotec liners



Accurate Data Capturing

- Cross reference tonnage and operating time with wear life
- Accurate prediction of next change out date



MULTOTEC

Australia – Brisbane

Tel: +61 (7) 3442 0100
Fax: +61 (7) 3200 7733
Email: sales@multotec.com.au

Australia – Perth

Tel: +61 (8) 9406 3500
Fax: +61 (8) 9302 1732
Email: sales@multotec.com.au

Canada – Edmonton

Tel: +1 (780) 433 8825
Fax: +1 (780) 433 8836
Email: canada@multotec.com

Canada – Montréal

Tel: +1 (450) 651 5858 (ext. 203)
Fax: +1 (450) 651 0002
Email: canadam@multotec.com

Chile

Tel: +56 (2) 745 3317/3302
Fax: +56 (2) 745 3432
Email: chile@multotec.com

Botswana

Tel: +267 297 4524/4525
Email: botswana@multotec.com

Ghana

Tel: +233 302 517 821
Email: multotec@multotec.wa.com

Mozambique

Tel: +258 25 240057
Cell: +258 84 064 9544
Email: mozambique@multotec.com
moz@multotec.com

South Africa

Tel: +27 (0) 11 923 6000
Fax: +27 (0) 11 394 8701/5099
Email: marketing@multotec.com

Zambia

Tel: +260 212 313 354
Fax: +260 212 312 422
Email: multotec@multotec.co.zm

www.multotec.com

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Sampling Solutions	Wear Lining Solutions	Mill and Scrubber Linings
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Pumps	Process Water Treatment and Metals Recovery	



Multotec products are subject to continuous development and Multotec reserves the right to make changes to the specifications and design of its products without prior notification.