



# HCX™ Grinding Elements for Vertical Mills

*Extend time between Mill overhauls while decreasing total cost of ownership*

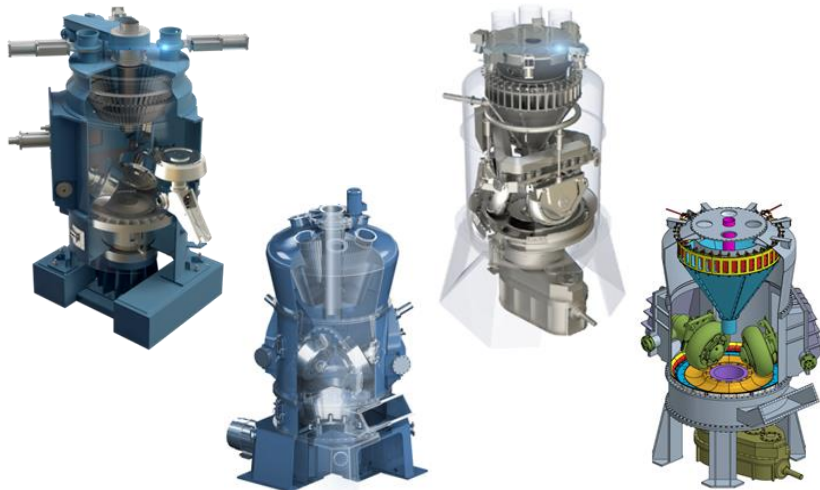


## Output – Extended LifeCycle

- HCX2™ life of up to 6X over high chrome and HC overlay
- HCX2™ life up to 2X longer than competitor ceramic

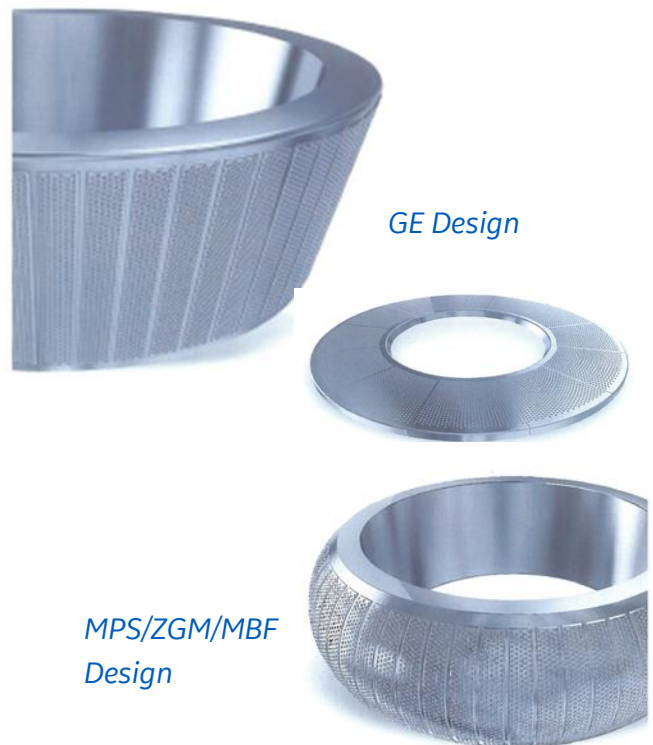
GE is the world’s leading supplier of coal mill parts & services. With over 100 years of experience grinding all types of coal in most mill models we specialize in reducing the total cost of ownership. Our Ceramic Inserted Grinding Elements – HCX™ and the next generation HCX2™, are grinding rolls and segments cast from a metal matrix of high chrome and ceramics. This matrix combines the extreme wear resistance of ceramics with the mechanical properties of cast alloys.

Our HCX™ portfolio of products is available for most vertical mill types and sizes- GE and other OEM fleet mills. And is applicable to any coal type.



## Benefits

- Reduced operations and maintenance cost via extension of time between overhauls
- Improved mill availability
- Longer acceptable coal fineness results from longer lasting grinding surface profile
- Reduced frequency of grinding roll to grinding segment gap adjustments
- No spalling which can occur with other materials
- Maintains grinding surface profile longer than any other material available



To learn more about this offering, contact your GE Sales Representative or visit [ge.com](http://ge.com)



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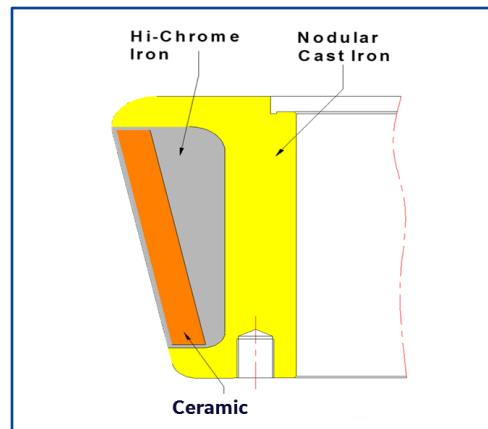
## Features

- Composite construction with hard inserts embedded in nodular iron
- Hard inserts made of highly wear resistant material comprised of non-metallic refractory oxides and chromium carbides
- Composite casting is heat treated to obtain optimized hardness for high wear resistance and desired toughness

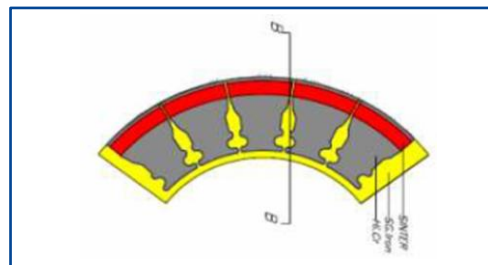
## Case Study Results:

GE Design Mill with 40+% ash coal

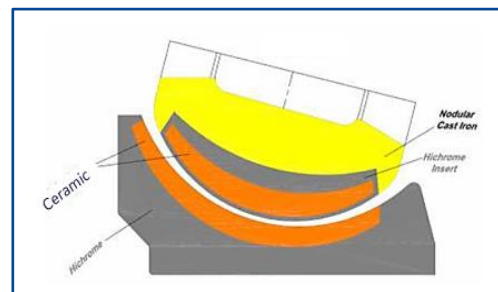
Properties	Conventional (HC Alloys and Overlay)	HCX™ Rolls & Segments	Competitor Product #1	Competitor Product #2	HCX2™ Rolls & Segments
LIFE IMPROVEMENT (Typical)	X	<b>2X to 4X</b>	2X to 4X	Up to 5X	<b>Up to 6X</b>
LIFE IMPROVEMENT	X	<b>3.5X</b>	3.5X	5.1X	<b>8.1X</b>
WEAR over 1000 hours	36.75 mm (1.45")	<b>10.5mm (0.41")</b>	10.5mm (0.41")	7.18mm (0.28")	<b>4.52mm (0.18")</b>
GRINDING SURFACE PROFILE CONSISTENCY	Low	<b>High</b>	Moderate	Moderate	<b>High</b>



GE type Roll



Cross Section View of Tire/Roll



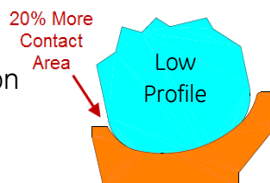
MPS/ZGM/MBF Mill Tire & Segment

## Low Profile Tire Option:



### Benefits

- Motor amp reduction
- Increased fineness
- Longer life



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