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Factors that impact slurry pump selection

- Abrasiveness of different applications
- Impact of operating off the best operating point of a pump
- Impact of operating the plant to get the best pump life
- Different pump designs and material choices available



Abrasiveness of different applications

- Type of solids: Hardness, Size, and Shape
- Fluid velocity through the pump
- Solids percentage
- Temperature of the application





Impact of operating off the best operating point



FLOW RATE



Impact of solids within a pump.

- High percentage of solids through a pump at the BEP flowrate.
- Even at BEP solids impact the metal walls as they change direction.
- Heavier solids cyclone out hitting the pump walls at steeper angles and higher forces increasing wear





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Typical FCCU Slurry Pump Around



Impact of operating the plant to get the best pump life

- Flow rate of pumps based on achieving the proper heat removal rate for the process
- Consider selecting a better slurry pump design allowing reasonable life at alternative flow rates
- Erosion resistant metals like high chrome iron have been proven to outlast alternatives often by four times.

Different pump designs and material choices available

HPX/HNN - API 610 pump with hard coating

HPX6000 - API 610 pump with full hard metal liners designed for slurry service

Aftermarket Replacement - API 610 pump with partial hard metal liners and coated diffuser

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Heavy Slurry Pump Design

HPX6000 – High Percentage Slurry Example

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Thank you!

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