

Mills Technical Data Sheets



The following technical data sheets show
Some of the standard milling equipment that we have available.
We can supply mills and milling systems to your specific
requirements
Given your particular technical specifications



ASIA's
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**ASIA's
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Connections**

Technical Data Sheet Milling



The selection and type of mill you require, FAG, SAG, SABC, rod or ball, is at best difficult, and depends on ultimately on test work performed for your application.

However we can guide you in initial mill selection from our experience and database of applications.

The first parameter to be established is to obtain the most accurate indication of the particle size requirements from the milling process, given your feed material. To be able to assess the grindability of the ore, the best indicator is the ore's Bond Work Index, which will define the power requirements per tonne of rock to achieve the required product specification from the mill.

This sets the basic power draw for your application and can then be used to simulate the various milling options and stages that maybe required for the downstream processing steps.

Other considerations are the variability of the ore, with for instance depth. The mine may commence operations as an opencast pit, producing a weathered ore, which as the pit deepens and then goes underground, the ore becomes more competent.

To be able to recommend suitable mill applications the results from representative test work are preferred, or reference to similar applications that have been brought to production and optimised.



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Technical Data Sheet

Milling

Type – References, Ball Mills over 5m
Diameter since 2004



Diameter mm	Length mm	Application	Quantity
5030	6400	Iron and Steel	5
5500	8500	Copper	2
5000	6400	Copper	1
5030	6700	Iron and Steel	6
5030	6700	Iron and Steel	3
5030	6700	Copper	2
5030	7000	Copper	2
5030	6400	Gold	1
5030	6400	Mongolia	3
5030	6400	Iron and Steel	2
5030	6400	Molybdenum	3
5500	8500	Gold	1
5500	8500	China	2
5030	8300	Kyrgyzstan	2
5500	9200	Chrome	2
5030	8300	Iron ore	1
6000	9500	Iron ore	1
5200	9500	Iran	2



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Technical Data Sheet

Milling

Type – References, SAG Mills over 5.5m
Diameter since 2004

Diameter mm	Length mm	Application	Quantity
5500	1800	Russia	2
5500	1800	Gold	3
6000	3000	Iron ore	1
6000	3000	Zhongtie	3
8800	4800	Iron ore	1
9200	4000	Iran	2





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Technical Data Sheet Milling



Once Bond Work Indices have been determined, the values are used to calculate the specific power to perform the required duty, where the following;

E = specific power, kWh/t

WI = Bond Work Index

P80 = 80% passing size of circuit product in microns

F80 = 80% passing size of circuit feed in microns



Where this can be given by the equation;

$$E = 10 \times WI \times ((P_{80})^{-1/2} - (F_{80})^{-1/2})$$



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To be able to give you a proposal and references to similar applications, could you please supply us with the following preliminary information;

- type of ore to be crushed
- bond work index for the feed material
- abrasion index for the feed material
- maximum particle size of the feed to the mill
- required F_{100} and F_{80} of the crusher product
- percent moisture in the feed
- proposed method of feed and discharge from the mill
- permanent, modular or mobile application
- available power source
- required operating hours per month
- stand alone operation or integrated in to larger plant system
- battery limits for the installation

If this information is not available, a general description of your project or application will allow us to make preliminary recommendations and develop the specific application requirements as more information is available.