PMP *MILL*

Characterising and Evaluating Comminution Processes

PMP *MILL*

comprises several program modules for the

Solution of Comminution Problems

in the field of mechanical process engineering. The program modules support the description of the comminution process based on the data of experimental investigations in several states. Each module can be applied to the experimental data. Different machine parameters and material properties will be considered depending on the specific problem. The quality of the descriptions and models can be improved stepwise with additional experimental data being available.

PMP *MILL*

Provides support on

- evaluating comminution experiments
- balancing of size reduction units
- evaluating the comminution progress
- model building for comminution machines
- optimising comminution processes

PMP *MILL*

combined with module **PMP *PARSIZE*** it enables

- an user friendly complex data acquisition
- a problem oriented administration and archiving of experimental investigations
- an expressive data visualisation
- a flexible data reduction

PMP *MILL*

comprises descriptions for the comminution process which are based on a state variable and a characteristic curve, which is related to the particle size. While the state variable describes the global comminution progress, the characteristic curve has to reflect the shape of the particle size distribution of the comminution product. Several characteristic curves are available in PMP *MILL*.

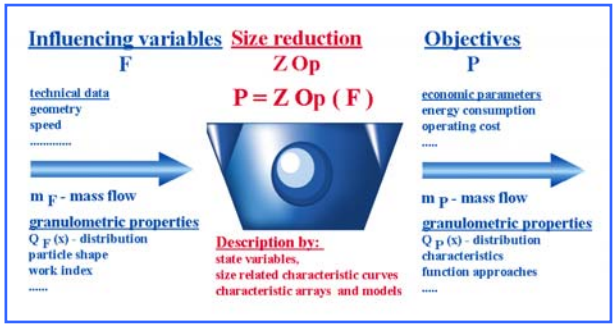
The empirical model approaches are based on particle size related characteristic curves and present the state characteristics in dependence of essential influencing variables. According to the specific problem the influencing variables can be selected arbitrarily (see also: model building with experimental comminution data).

PMP *MILL*

Each program package contains methods for

- calculating characteristic values, characteristic curves and the model parameters of empirical models
- verifying the validity of the models
- predicting the comminution product in different process states

These methods allow to evaluate, check and optimise the comminution processes regarding individual application conditions with specifications of influencing variables and objectives.



These packages can be applied for the wide variety of comminution equipment - from crushers in the coarse particle range down to the fine grinding mills.

PMP *MILL*

comprises the following program packages:

- *Mill 10*

  characteristic curve: particle concentration ratio

- *Mill 20 / 30*

  state variable: reduction ratio with respect to a specified Q* value
  charact. curve: relative particle concentration ratio

- *Mill 40* (Bond's approach)

  state variable: reduction ratio with respect to Q*=80%. The reduction ratio is calculated using the Bond equations.

  charact. curve: relative particle concentration ratio

- *Mill 25 / 35* (Schmitz' approach)

  state variable: surface growth
  charact. curve: specific particle size distribution

- *Mill 13* (tumbling mill model)

  characteristic curve: energy efficiency curve

- *Mill 14* (ball mill model)

  characteristic curve: energy efficiency curve

  Representation of ball size composition

Detailed information can be found in the product leaflets.

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