PMP Formula Generator

Calculating User Specific Characteristics

The module

PMP FORMULA GENERATOR

has been developed in order to enable the calculation of custom-designed characteristics with the PMP-Software. By means of this module the corresponding formulas can be defined and implemented individually by the PMP user. So all relations being relevant to the specific problem can be integrated into the PMP-Projects.
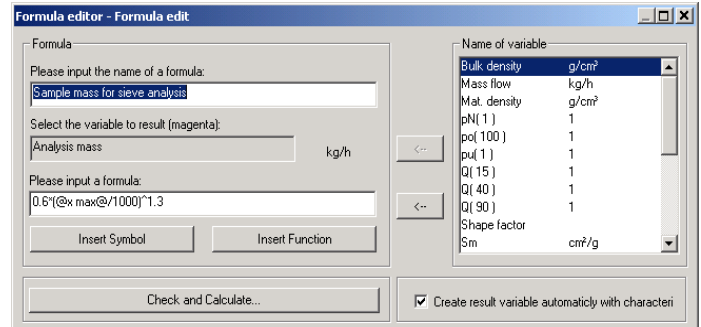

Fig 1: Setup step for calculating a custom-designed characteristic

The **PMP FORMULA GENERATOR** contains tools for

♦ inputting the formula including syntax check for new coherences to be included (Fig. 1)

♦ calculating the custom-designed characteristics on the corresponding objects (Fig. 2)

♦ administrating all coherences which have been saved in the PMP formula pool (Fig. 3)

EXAMPLE

The importance of such an open concept and its realisation already becomes visible on the simplest example: Display of different analysis masses m_{Pr}, which are required for testing by screening of different material samples from a grinding plant. The required sample mass is dependent on the expected largest grain of the sample, x max. So it can be defined using e.g. the following empirical rule:

$$\frac{m_{Pr}}{[kg]} = 600 \cdot \left(\frac{x_{max}}{[mm]} \right)^{1.3}$$

The implementation of this equation into the PMP system requires one singular setup step. This can be done without big effort by means of the corresponding dialogue of the formula editor.
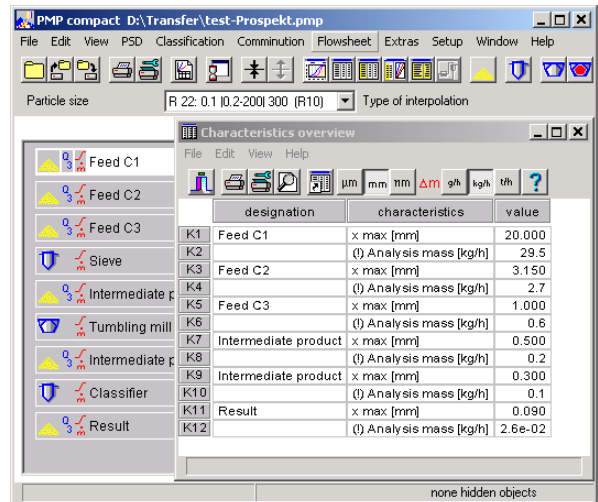

Fig. 3: Formula list for selected PMP object types

Fig 2: Display of required sample masses for the sieve analysis

In the mentioned case the calculation of the assigned characteristic „analysis mass" will be organised. Fig. 1 illustrates this step.

So, the weighted sample mass which is required according to the estimated largest grain size, can be displayed on the different material objects, see Fig.2.
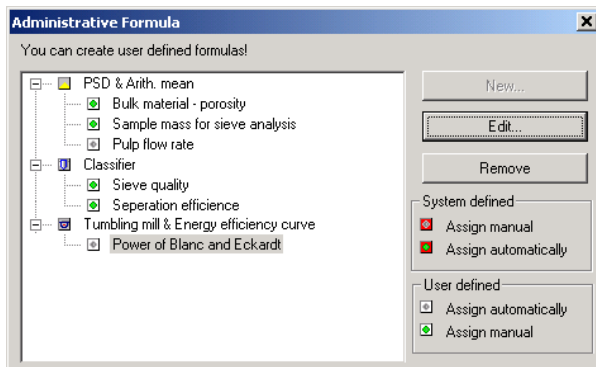
PROPERTIES AND APPLICATION BENEFITS

♦ The formula generator enables the implementation of an individual calculation equation with respect to each assigned characteristic. The calculation can be activated at any time. So all variables can be integrated into the entire project being available to arbitrary further evaluations.

♦ The formula generator supplies a frame easy to handle for implementing individual relations into the PMP-Software with minimum effort in combination with the PMP module for processing characteristics.

♦ This technology enables the simple implementation of individual Know-how on specific relations.

♦ The technology also ensures that important process engineering calculations at different places and states of the project will be realised on the same uniform basis.