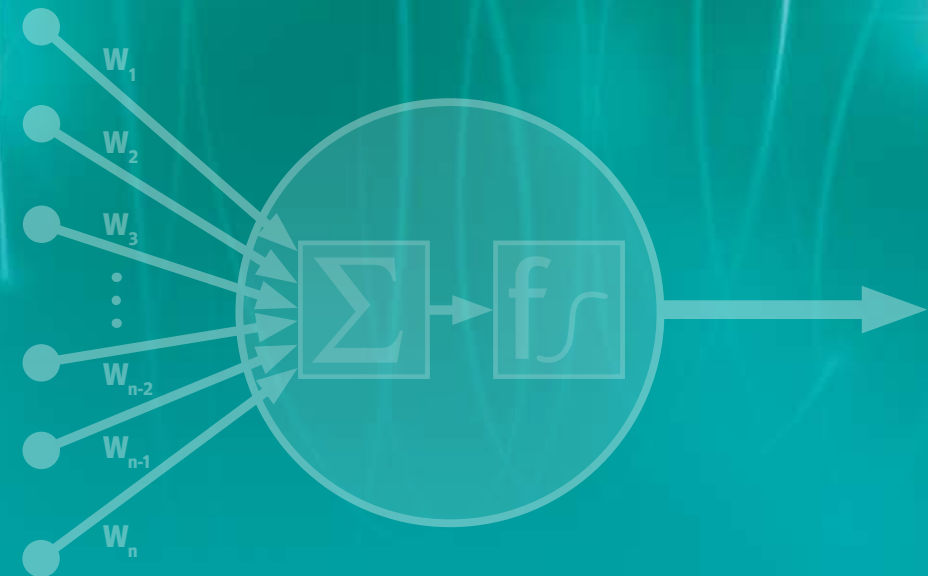


This information and our technical advice – whether verbal, in writing or by way of trials – is given in good faith but without a warranty, and this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended processes and uses. The application, use and processing of the products are beyond our control and, therefore, entirely your own responsibility. We will only sell our products on the basis of our General Conditions of Sale and Delivery.

*This is a developmental product. Further information, including supplementary data on hazards associated with its use, may be compiled in the future. For this reason, no assurances are given as to type conformity, processability, long-term performance characteristics or other production or application parameters. Therefore, the purchaser/user uses the product entirely at his own risk without having been given any warranty or guarantee and agrees that the supplier shall not be liable for any damage, of whatever nature, arising out of such use.

Under the recommended processing conditions, small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerances limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded.



Design + Processing Properties

Identifying application-specific material parameters
for injection molding

Plan injection molding processes – ensure correct dimensioning of components

Design + Processing Properties, a software tool based on neuronal networks (upgrade)

The permitted load-bearing capacity of components made from Makrolon®, Apec®, Makroblend® and Bayblend® can now be determined by the Bayer MaterialScience package Design + Processing Properties (DPP) not only for a specified service temperature but also for long-term applications of up to 10,000 hours. This new option adds a further dimension to the many different DPP calculation options for component developers and thermoplastics processors. By using DPP, BMS customers can speed up time-consuming development stages for thermoplastic moldings right up to series production, while at the same time increasing planning reliability.

The core of Design + Processing Properties (DPP) is an artificial neuronal network that simulates information processing in the human brain. It runs a computerized simulation of a range of interconnected nerve cells. Like their natural counterparts, each artificial neuron receives signals from its neighbors and then decides what kind of a signal it should emit. However, the signals it produces are numbers instead of nerve stimuli. Whenever data are entered into the input nerve cells, the network processes the data into a result which can then be read at the output cells. The extent to which the value disseminated by a cell impacts other cells is determined by

the computer in a “training phase” during which it is given examples where the relevant input and output values are already known. Once the circuitry has been specified, the neuronal network can determine the result for unknown input data, thus effectively making its own decisions. From the outside it is not possible to follow exactly how this is done, and scientists therefore speak of a “black box”.

DPP is not a static database where we merely enter measured properties which you can then call up as a user. Instead, you as the user specify your requirements, e.g. wall thickness, flow path, processing parameters and machine settings, and the software uses this input as the basis to identify the properties you require for a given molded part.

Once you have registered as a user and have downloaded the web client software, Design + Processing Properties is available to you on your PC. To help you in the use of Design + Processing Properties, the TechCenter has provided a range of online user guides.

<https://plastics.bayer.com/plastics/emea/de/engineeringservices/dpp/DPP.html>

DPP Modules



DPP Design Module



DPP Processing Module



DPP Rheological Module



DPP Mechanical Module



DPP Virtual Lab Module



DPP Data Sheet Module



DPP Product Info Module

Fig. 1: Modular structure of DPP

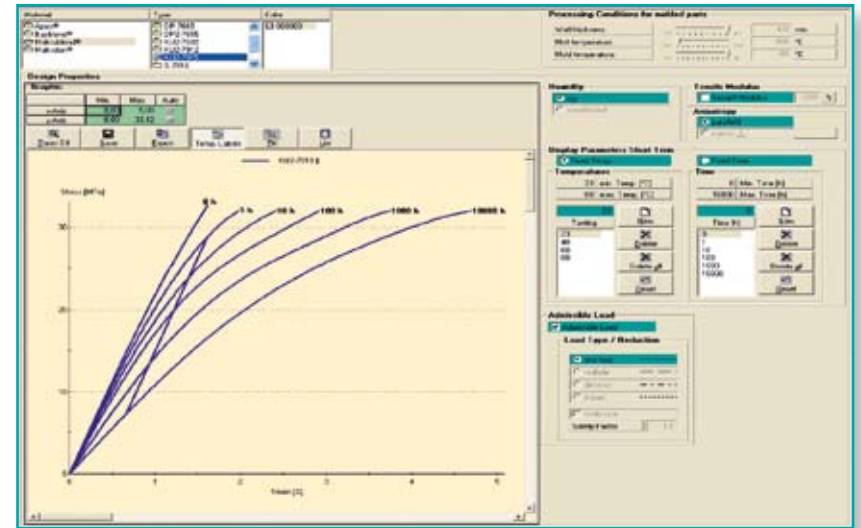


Fig. 2: Permitted long-term load-bearing capacity of Makroblend® KU2-7915*

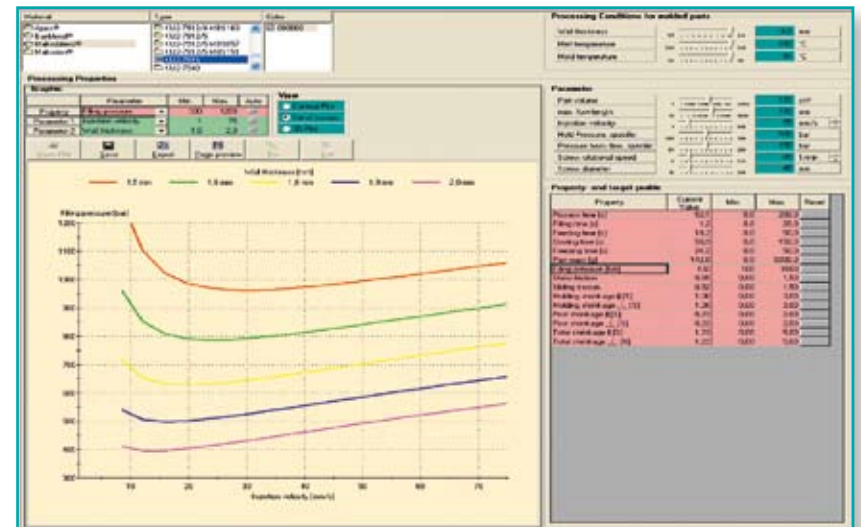


Fig. 3: Injection pressure of Makroblend® KU2-7915*