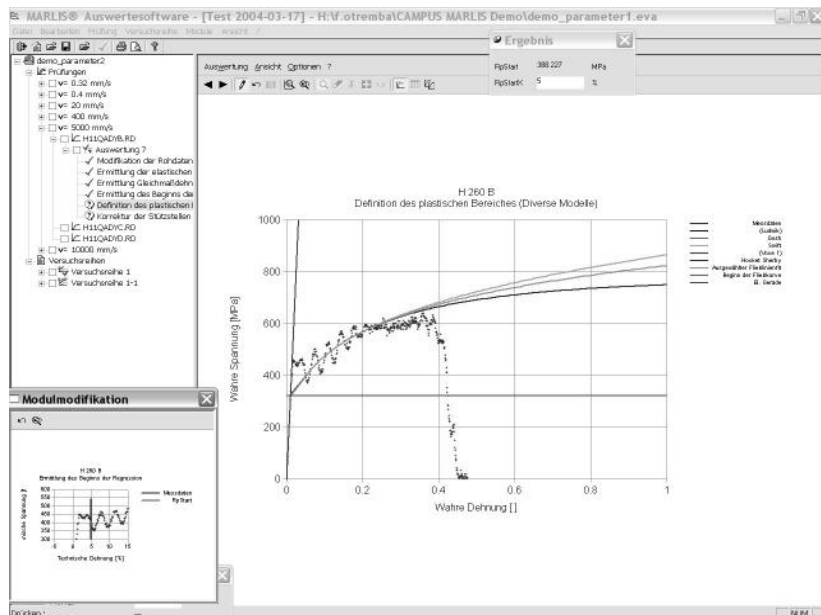


## Material Modeling

For many years now, M-Base is a leading software supplier for effective material data management. Recently, our spectrum has been enlarged to dataprocessing and mathematical modeling. These steps are of great importance within the chain of process. At the beginning it is necessary to process physical results in order to determine the needed material properties and later on it is important to allocate and to format data for subsequent processes, mainly all variations of CAE systems.

Meanwhile, we have extensive software and reference systems available in the area of test evaluation and modeling. These comprise all steps within the determination of material properties, for example, import of raw data from test machines, polishing, averaging, statistical analysis, determination of the requested engineering properties (e.g. modulus, uniform extension, r-values etc.) and the regression analysis for determining the parameters for the material- and process models to apply. The specific advantage of our software is, besides the accuracy of analysis, the high speed. It allows the visualization of the results, online and graphically interactive. That is how the user receives more control over the



Evaluation of Tensile Tests

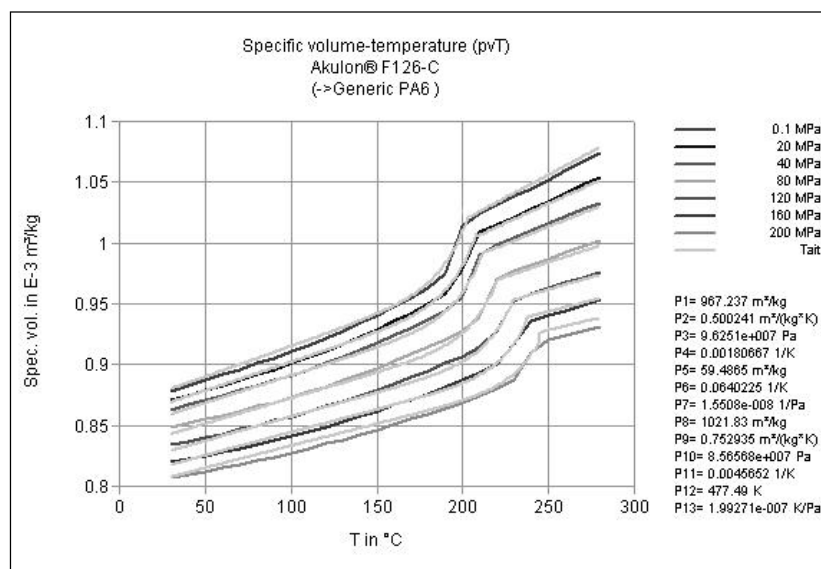
workflow and furthermore, the results are considerably better than those gained by conventional analysis. Our software can be used, for instance, to evaluate tensile tests for steel as well as for plastics (including high speed tests for crash simulations), the evaluation of forming limit tests with steel and aluminum and the determination of model parameters in the area of viscosity, pVT and creep, which are part of our standard software MCBASE and Material Data

Center in the meantime.

An important field of application for material data is the use within CAE systems. Here again, the point is to fit data to models but also to convert a great amount of data into a certain, strictly determined format in a quick and safe way. Examples of data interfaces, already realized by M-Base, are as follows:

- ABAQUS
- ANSYS
- AutoForm
- FALANCS
- FEMFAT
- FEMSITE
- PAM-CRASH
- PAM-STAMP
- LS-DYNA
- PERMAS
- CADMOULD
- MOLDEX
- Sigmasoft

We offer standard software, as well as individual modifications and extension, based on customer specifications. We also provide extensive consulting services in relation with material modeling, software specifications and integration of material models in material databases.



pvT Fit for Plastics in MCBASE