

DICTRA 27

It is with great pleasure that we can now provide our maintenance and support subscribers all over the world with a completely new version of DICTRA.

DICTRA version 27 contains a completely new solver for moving phase boundary problems. The new solver is based on the method described in the following paper: *On the numerical simulation of diffusion controlled reactions under local equilibrium conditions*, H Larsson and RC Reed, *Acta Materialia* 56(2008)3754-3760.

Thus, as of DICTRA version 27 there are, essentially, two separate implementations inside the program for solving diffusion problems. The classic implementation is based on the finite element method (FEM), whereas the recent addition is based on the finite volume method (FVM). Some types of simulations are only possible with one of the models and in other cases one of the models are generally to be preferred. The finite element implementation is in general the default choice for simulations that can be run with both models.

The new model is intended to be more robust and general. However, it is much more computationally demanding. For ordinary moving phase boundary simulations the classic model will be tried first. If this fails the program will then automatically try the new model.

The General diffusion model, used for complex phases such as oxides, has been rewritten and a number of bugs has been fixed.

DICTRA 27 has so far been tested on both 32- and 64-bit architectures of the following operating systems; Windows (XP, 7 and 8) and Linux (Ubuntu 12.04, CentOS 6.3, CentOS 5.8 and openSUSE 12.2).

We recommend you refer to the installation guide before upgrading to DICTRA 27.

A new license file is required for running the new software version. You will be receiving the new license file from us as an e-mail attachment.

Should you have any questions or feedback to provide, then you are always most welcome to contact us.

[Enjoy using your new software!](#)