



corus

# Hot Strip Mill Dynamic Model

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## Introduction

SDC has created a library of Hot Strip Mill Dynamic models. With this library it is reasonably easy to quickly make a dynamic model of a Hot Finishing Mill configuration.

## Use of the Library

The library of mill model parts is shown below. With these model parts it is possible to quickly set up a mill configuration with control loops.

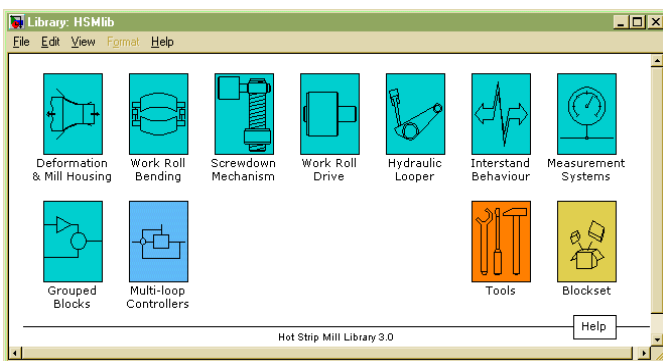
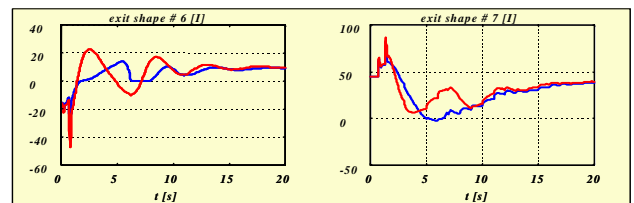


Figure 1 Library of elements for building Simulink simulation models.

## Simulations

Several possibilities exist to perform a time simulation with a model that is based on HSM Library sub-models. As example is shown a 7 stands finishing mill with 6 loopers and many control loops. However, for many purposes it is not necessary to have the complete lay-out of the finishing mill. It is e.g very well possible to build a 2 stands-1 looper model to look at local control problems. An example of typical simulation results is shown in the graph.

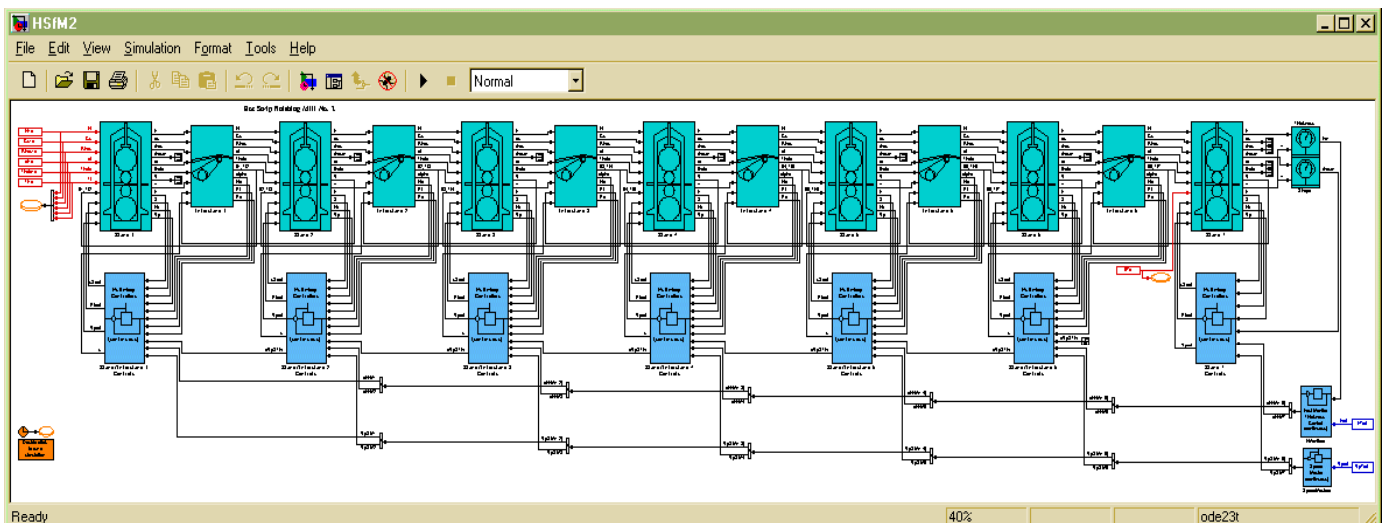
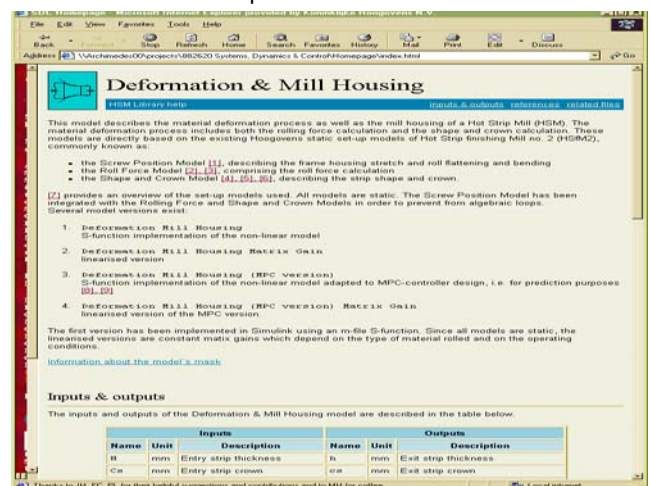


Typical result of simulation

## Help Functions

Every function block in the library has its own help function. These help functions are available in HTML mode. They contain

- Description of the model;
- Instruction for running a simulation and data to download;
- Information about the model "Mask" (a typical Simulink feature)
- Inputs and outputs: names and units
- Related (m-)files;
- References with links to the CRD&T Reference Source, the database of CRD&T reports and other documents.



Simulink model of 7 stands hot strip finishing mill including all control loops.