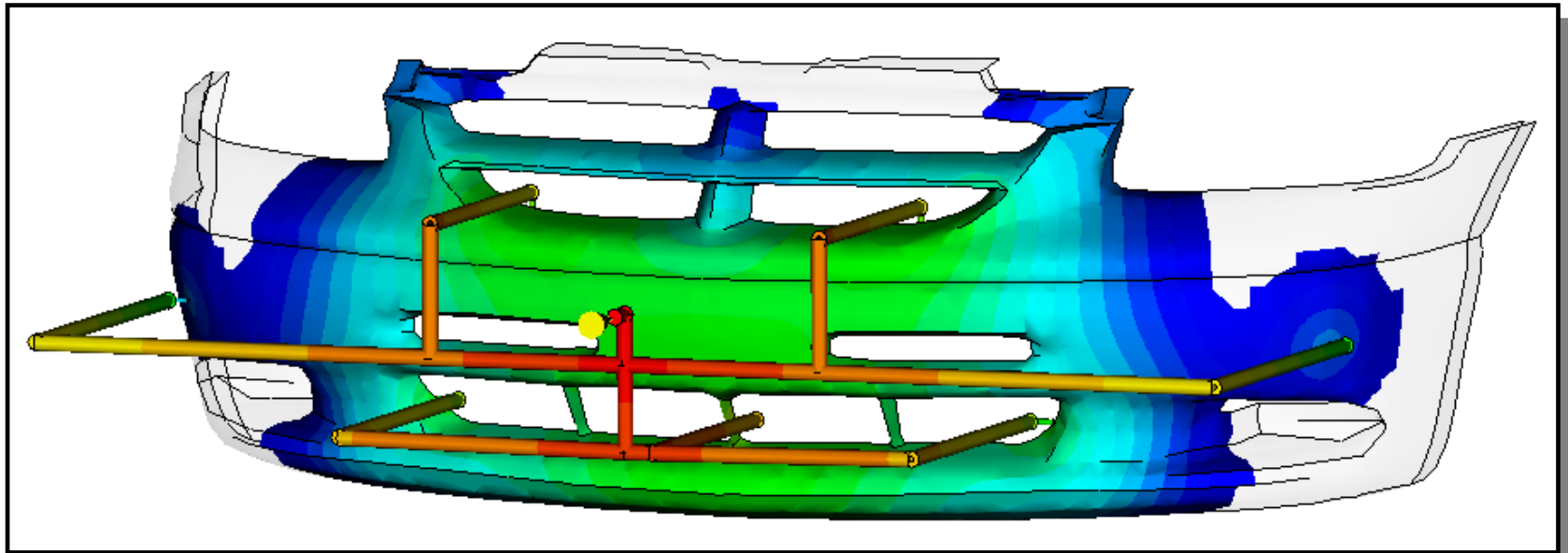


## Rheological Stage 1: Process window with limitation of filling pressure

Example of use: “CAE Calculation of Mold Filling”



**Question:** Can viscosity data for Makroblend KU 2-7912 be exported to CAE analysis programs ?

# Rheological Stage 2: Selecting viscosity parameters

Click on "Rheological"

**Rheological Properties**

**Graphic**

Property	Parameter	Min.	Max.	Auto
Carreau-Melt viscosity		10	1000	<input checked="" type="checkbox"/>
Parameter 1	Shear rate	100	50000	<input checked="" type="checkbox"/>
Parameter 2	Melt temperature	500.00	540.00	<input type="checkbox"/>

**Preparation**

- Contour Plot
- Set of curves
- 3d-Plot

**Graph Data:** Carreau-Melt viscosity [Pa s] vs. Shear rate [1/s]. Curves are shown for 500.00 °F, 530.00 °F, 510.00 °F, and 520.00 °F.

Select set of curves

**Processing Conditions for molded parts**

Wall thickness: 0.0581 to 0.1575 in (0.0945 in)

Melt temperature: 500.00 to 536.00 °F (500.00 °F)

Mold temperature: 140.00 to 176.00 °F (174.20 °F)

Enter melt temperature and shear rates

**Processing Conditions for molded parts**

Wall thickness: 0.0591 to 0.1575 in (0.0945 in)

Melt temperature: 500.00 to 536.00 °F (500.00 °F)

Mold temperature: 140.00 to 176.00 °F (174.20 °F)

**Parameter**

Shear rate: 100 to 50000 1/s (1000 1/s)

**Property- and target profile**

Property	Current Value	Min.	Max.
NN-Melt viscosity [Pa s]	265	200	1500
Carreau-Melt viscosity [Pa s]	286	10	5000
Carreau-Zero shear viscosity [Pa s]	509	10	20000
Carreau-reciprocal transient shear rate [s]	0.001662	0.000500	0.500000
Carreau-gradient [1/s]	0.588	0.150	1.200

**Parameter**

Shear rate: 100 to 50000 1/s (1000 1/s)

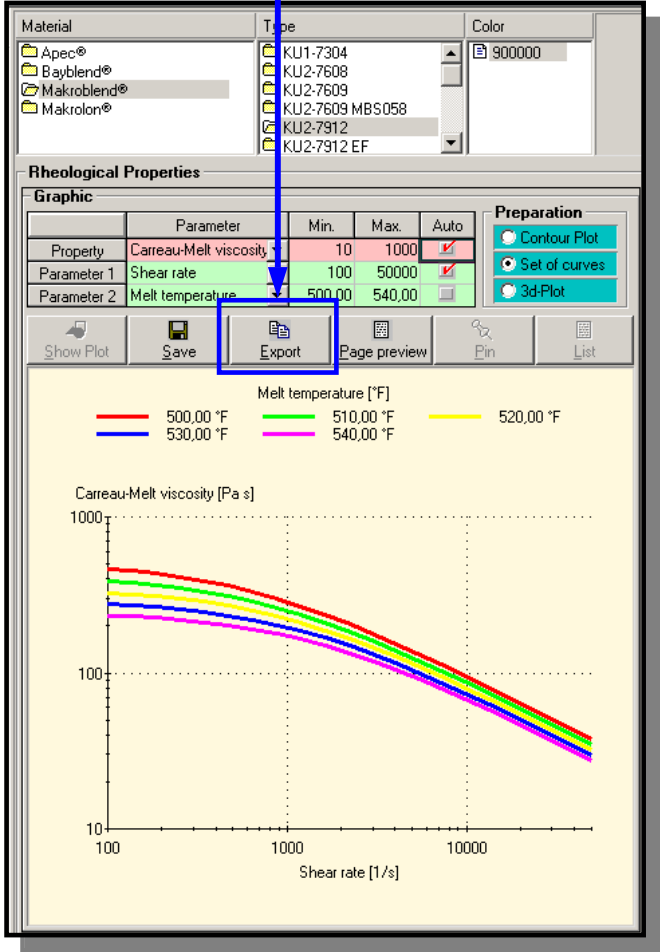
**Property- and target profile**

Property	Current Value	Min.	Max.	Reset
Carreau-Melt viscosity [Pa s]	286	10	5000	

# Rheological Stage 3: Exporting viscosity data

Select "Export"

E.g. import to Excel



	A	B	C	D
	Results in Target-Profile	Shear rate [1/s]	Melt temperature [°F]	Carreau-Melt viscosity [Pa s]
2	WAHR	100	500	465
3	WAHR	136	500	451
4	WAHR	186	500	434
5	WAHR	254	500	414
6	WAHR	347	500	390
7	WAHR	473	500	362
8	WAHR	645	500	332
9	WAHR	880	500	300
10	WAHR	1201	500	267
11	WAHR	1639	500	235
12	WAHR	2236	500	205
13	WAHR	3051	500	176