

NOVAFLOW &SOLID

A NOVACAST SYSTEMS PRODUCT

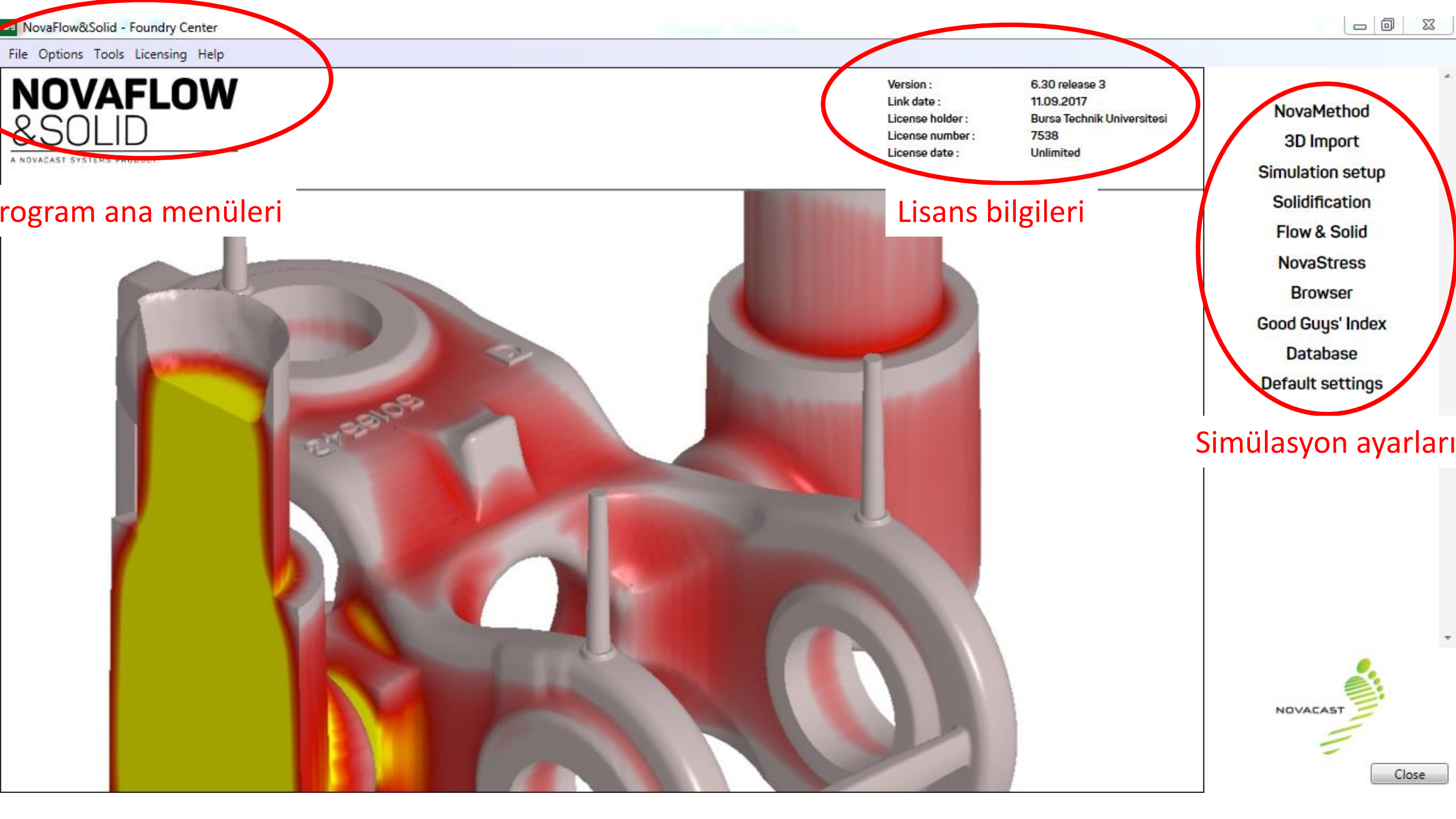
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NovaMethod
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Simulation setup
Solidification
Flow & Solid
NovaStress
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Good Guys' Index
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Program açıldığında ilk karşımıza çıkan ana ekran bu şekildedir



Close



program ana menüleri

Lisans bilgileri

Simülasyon ayarları

Open...

Archiving descriptor...

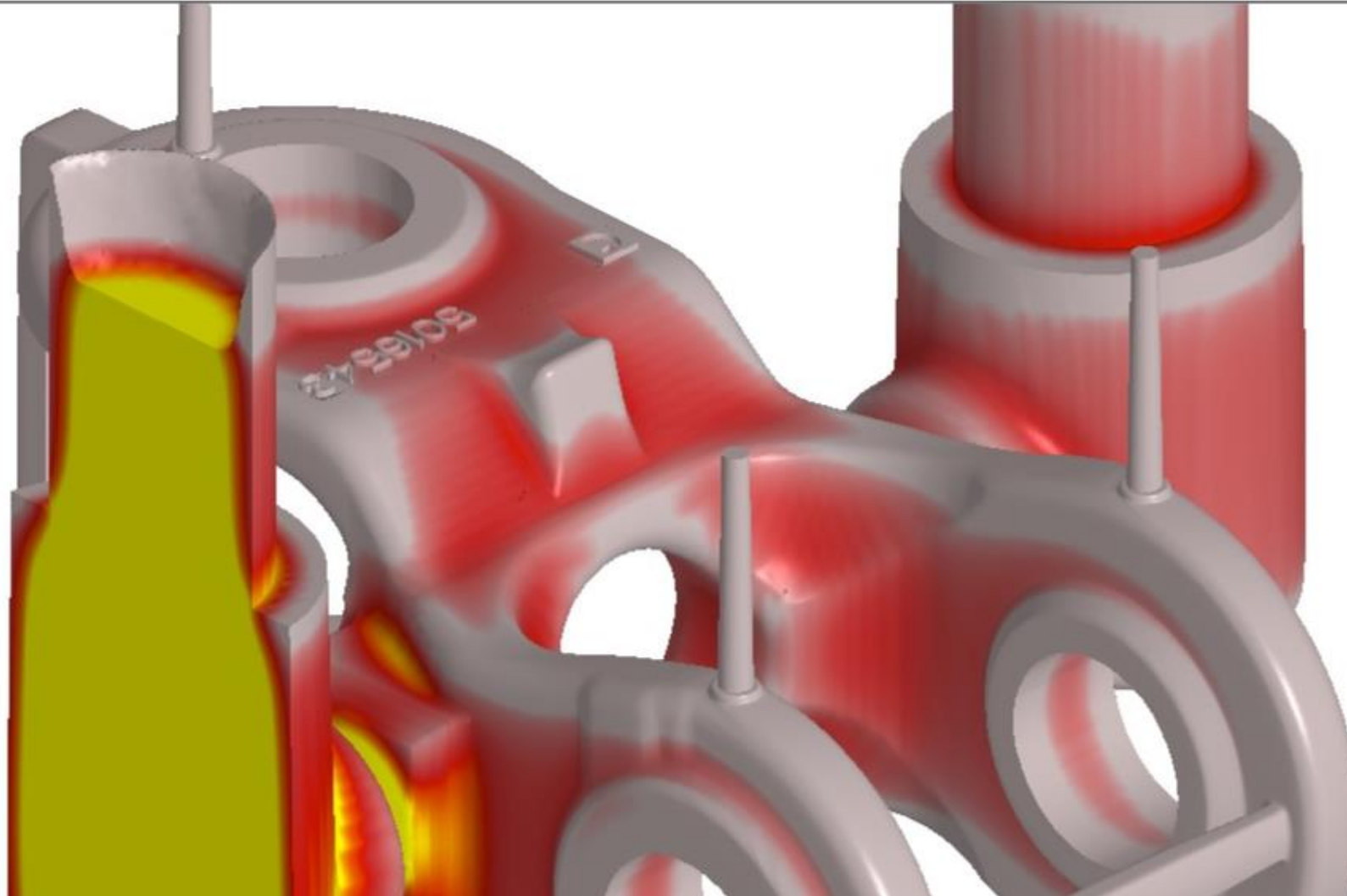
Proje açma

Arşivleme

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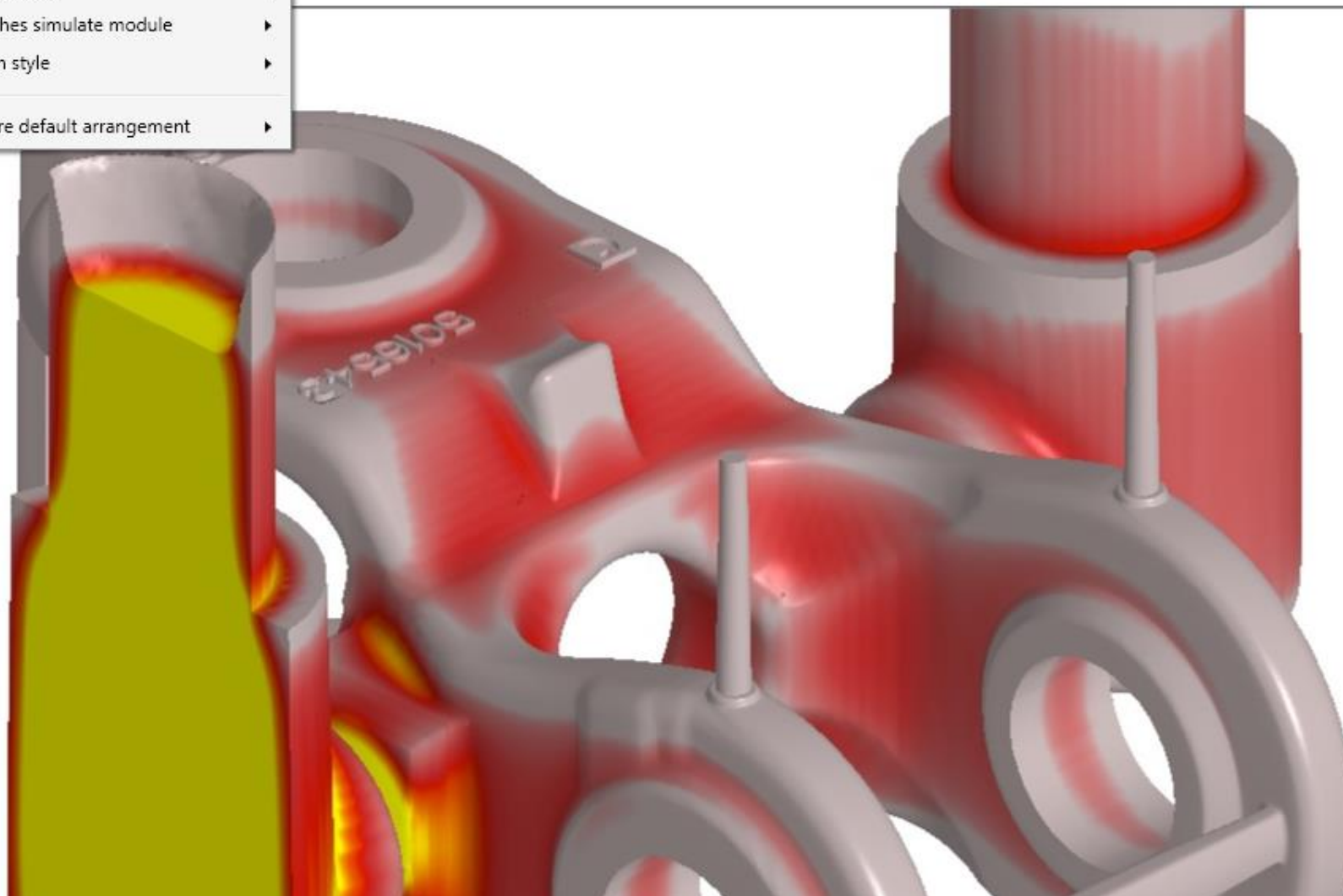
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Close

- Application settings path...
- Project management...
- Language ▶
- MeasureUnit ▶
- Launches simulate module ▶
- Button style ▶
- Restore default arrangement ▶

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Restore default arrangement ▶

☒ Metric system (°C)

☐ Metric system (°K)

☐ Imperial system

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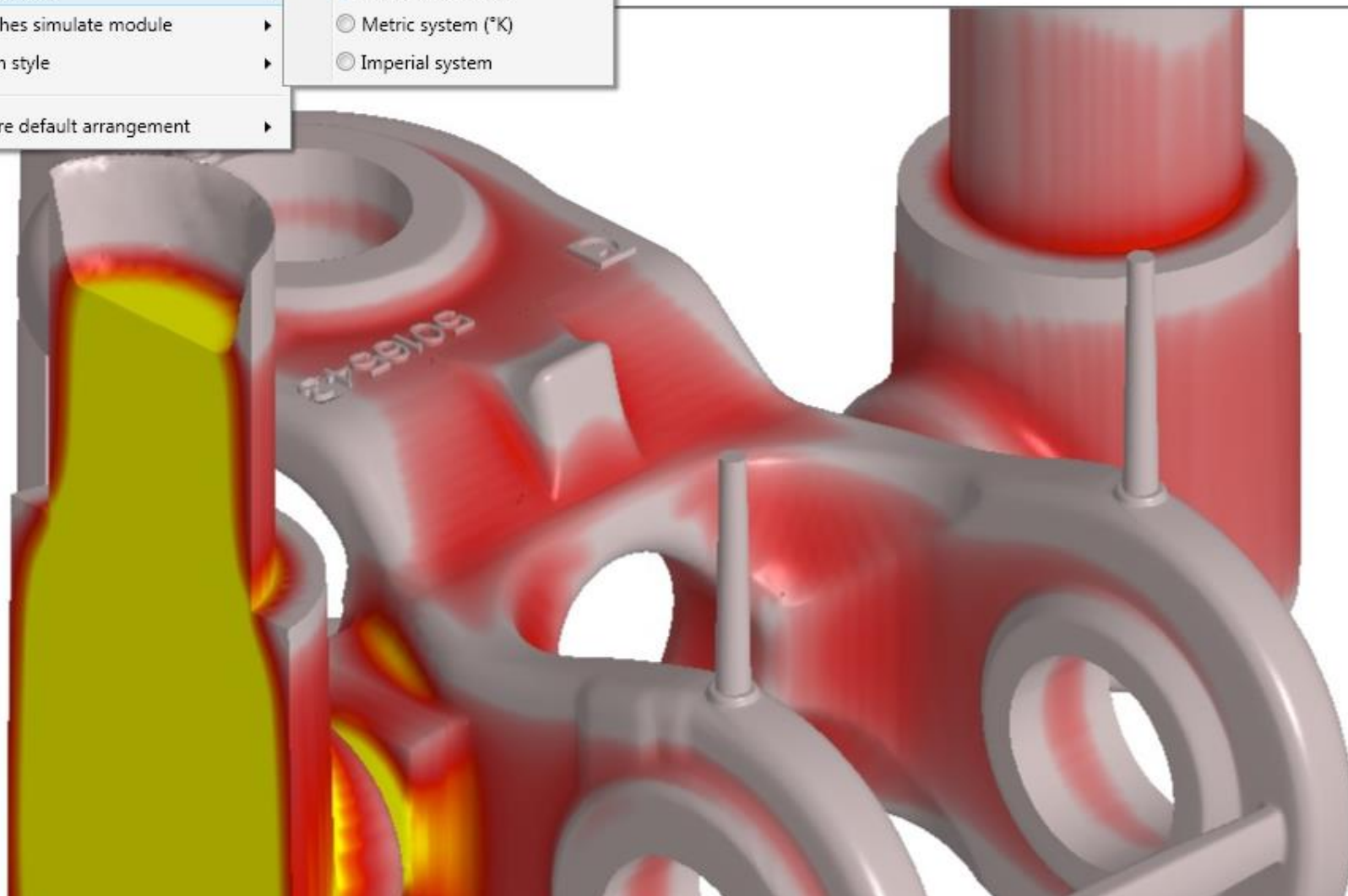
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☐ Quick flow simulation

☒ Solid simulation

☐ Flow simulation

☐ Flow & Solid simulation

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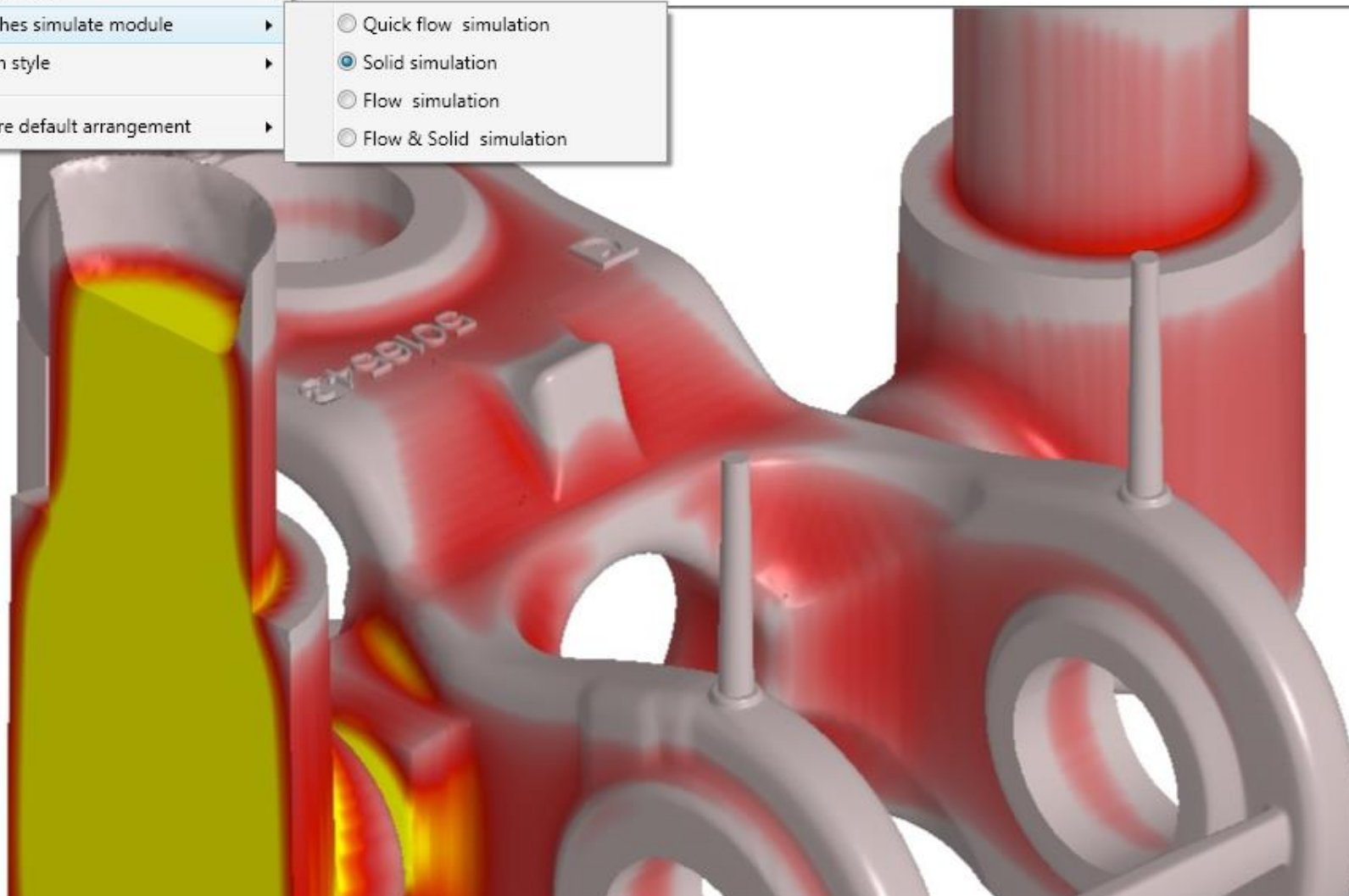
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Language ▶

MeasureUnit ▶

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Button style ▶

Restore default arrangement ▶

☒ Big image

☐ Small image

☐ Text only

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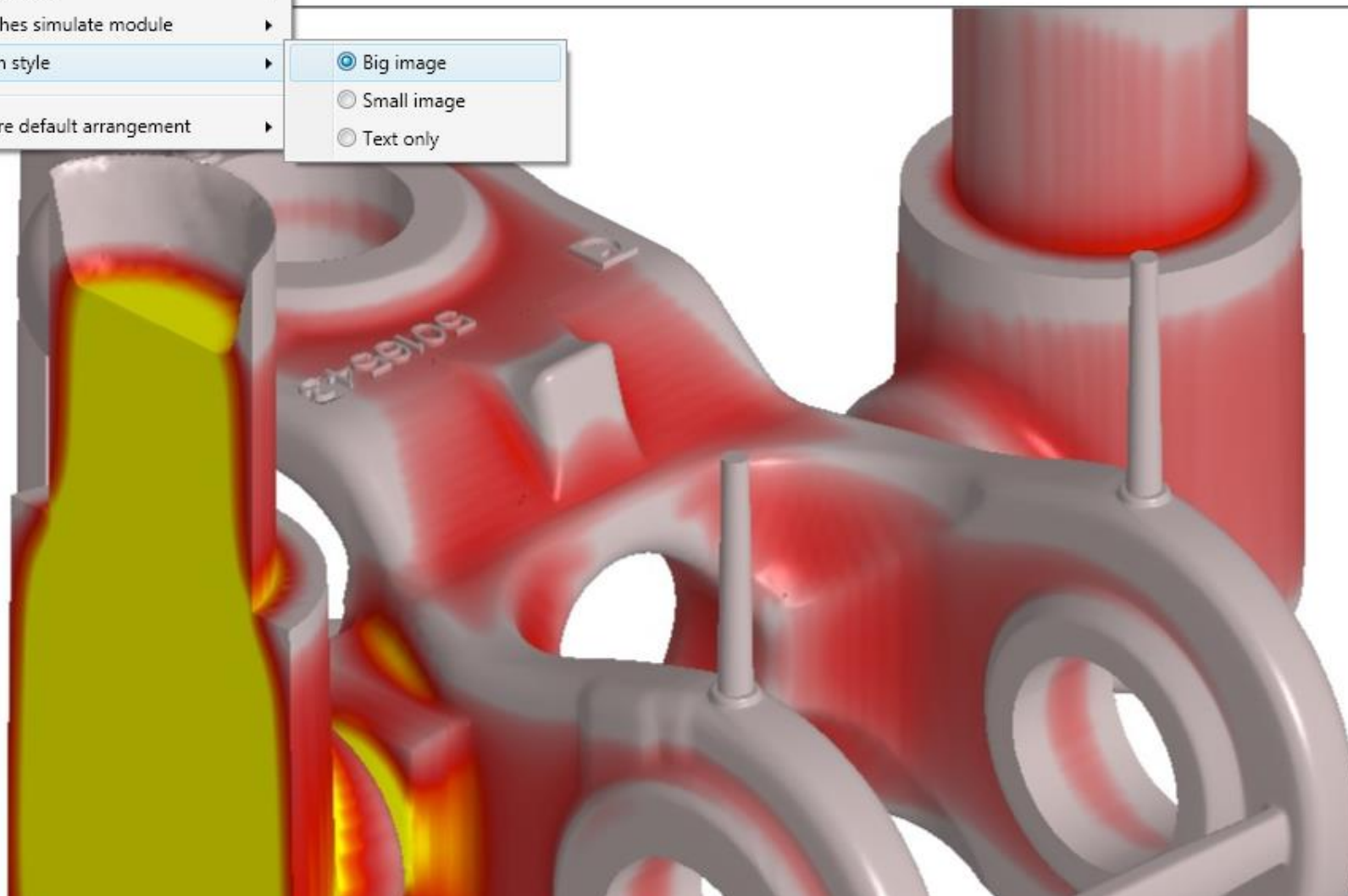
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NovaMethod



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NOVACAST

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Button style ▶

Restore default arrangement ▶

☐ Big image

☒ Small image

☐ Text only

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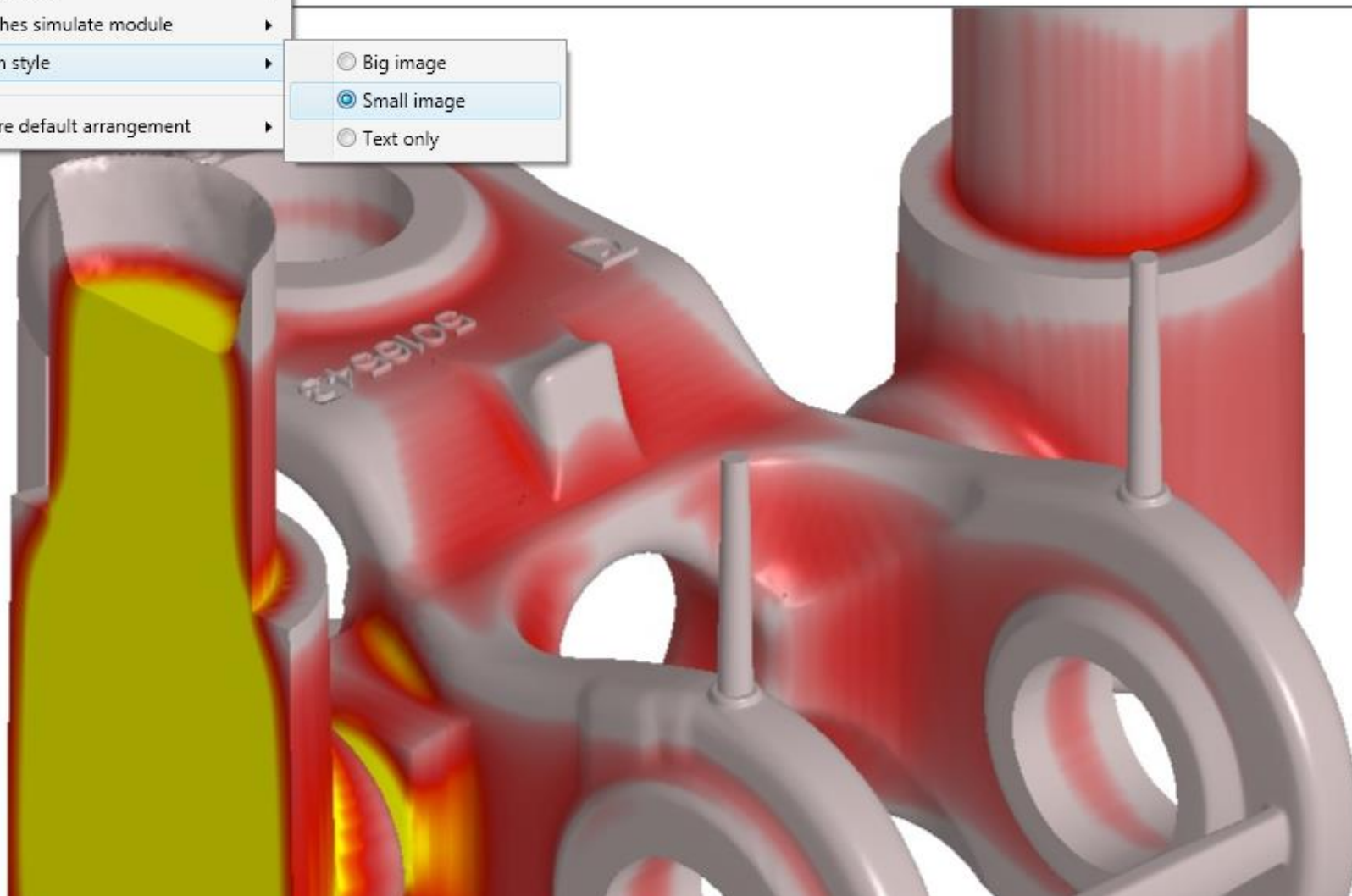
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☐ Small image

☒ Text only

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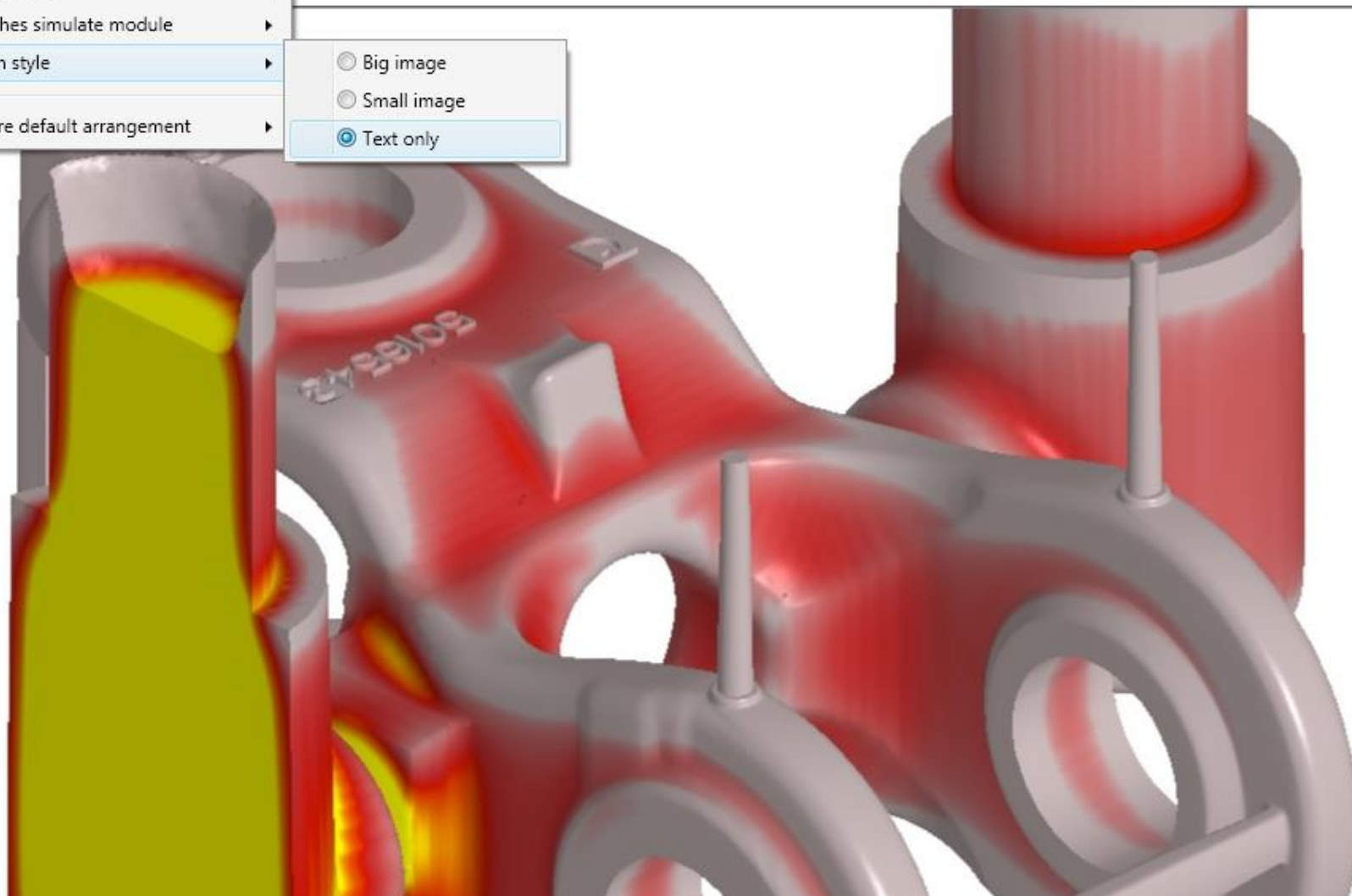
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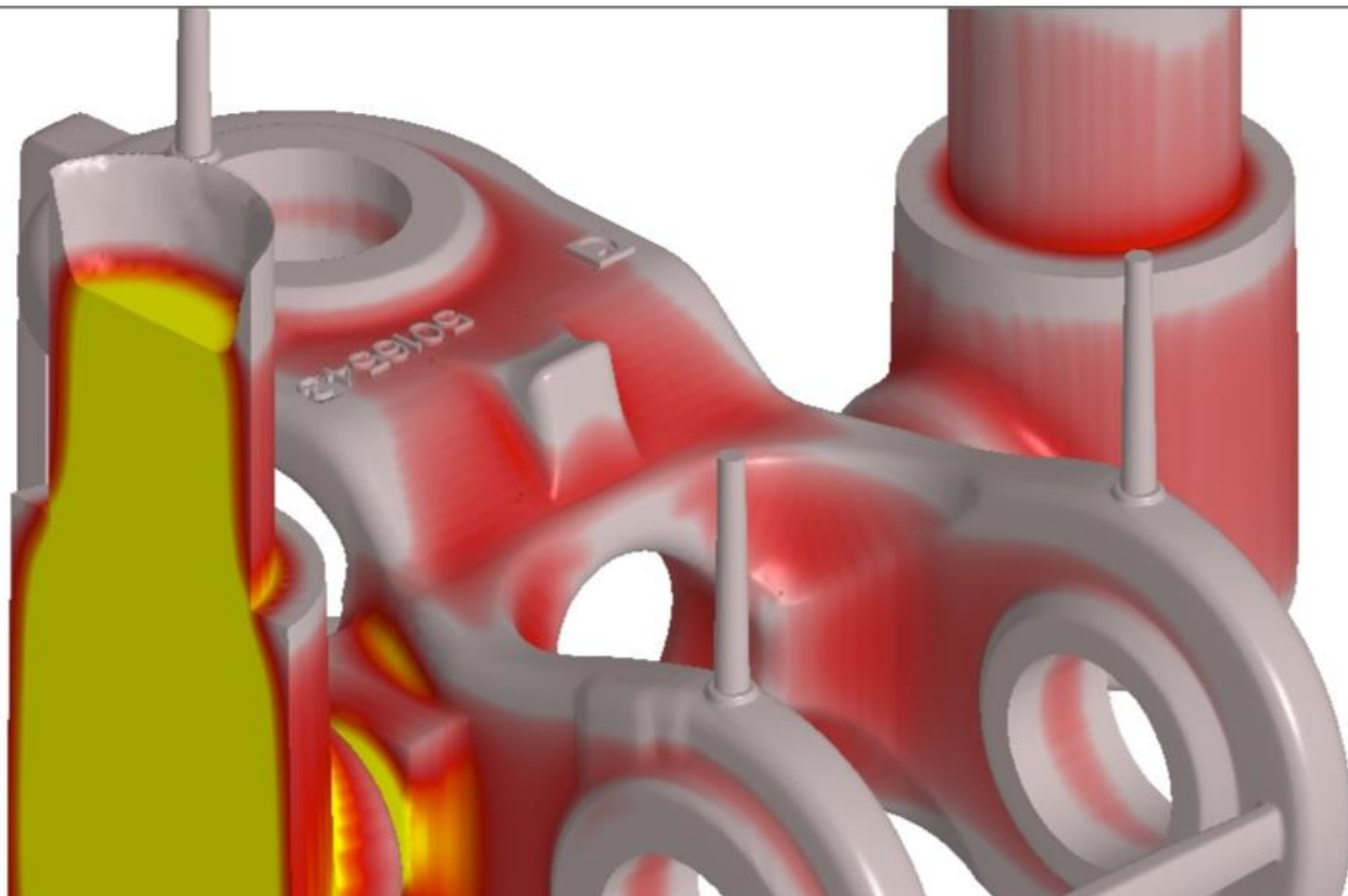
NOVA
&SO

Run
Show/Hide command...
External tools...

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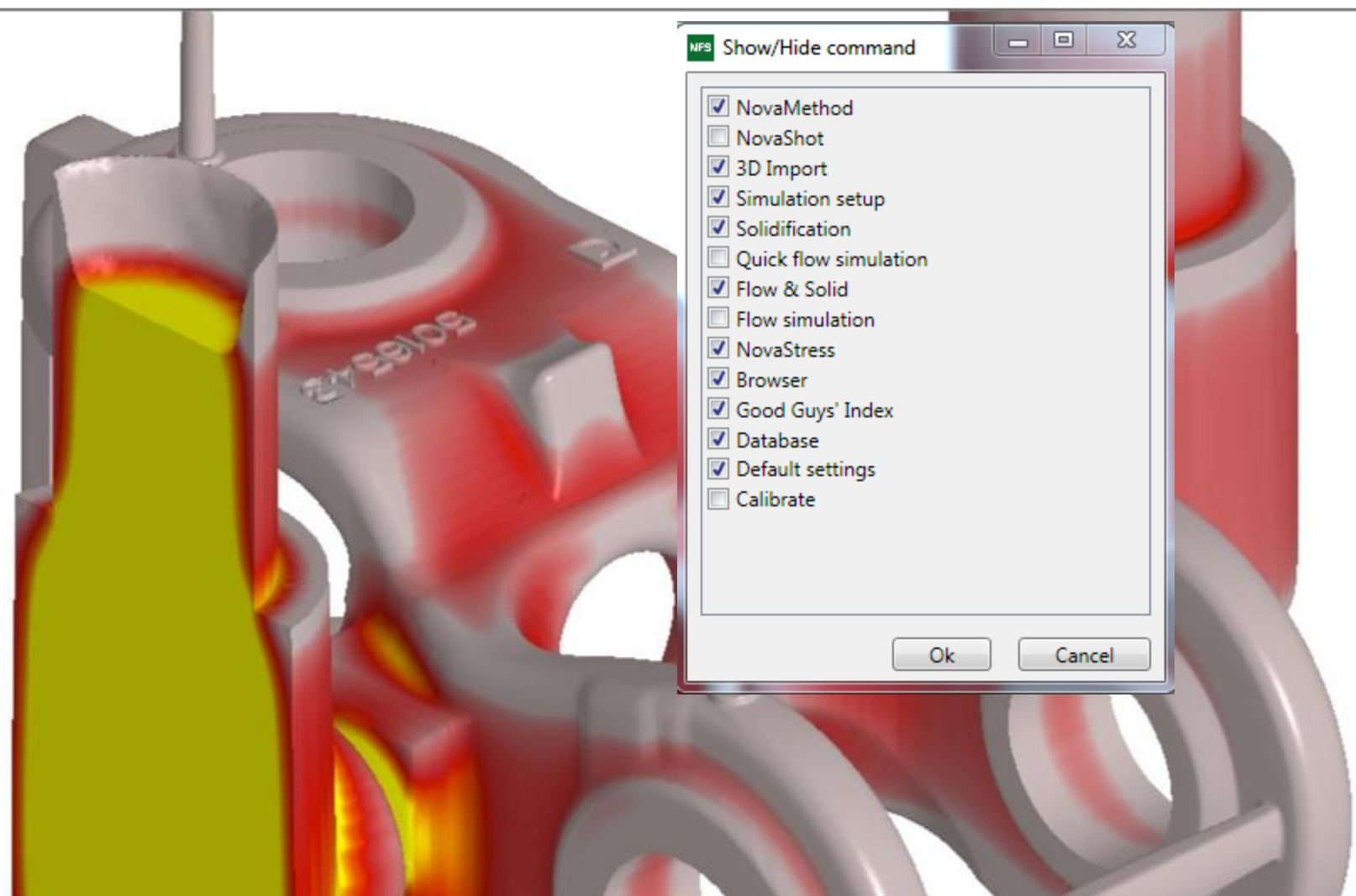
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Close

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- Run
- Show/Hide command...
- External tools...



NPS Show/Hide command

- ☒ NovaMethod
- ☐ NovaShot
- ☒ 3D Import
- ☒ Simulation setup
- ☒ Solidification
- ☐ Quick flow simulation
- ☒ Flow & Solid
- ☐ Flow simulation
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- ☐ Calibrate

Ok Cancel

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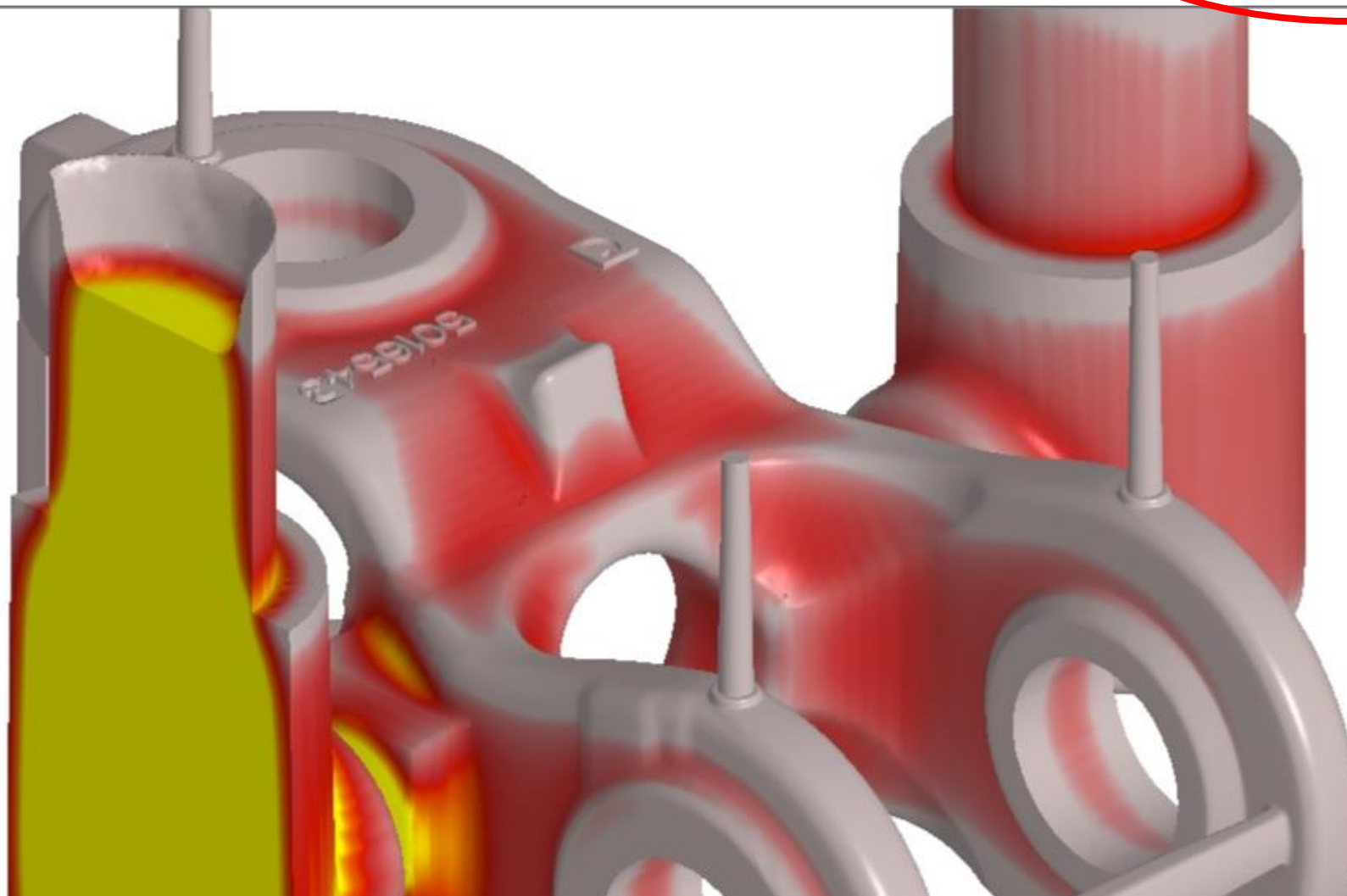


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Lisans güncelleme

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Close

Sistem belirtilen dosyayı bulamıyor : C:\Novacast
Systems\NovaMethod\Spaceclaim.exe

Tamam

NovaMethod, bir çok program
kullanıcısında yoktur. Bu adımda CAD
programı olmayan çalışmaların
teknik çizimi burada yapılmaktadır.

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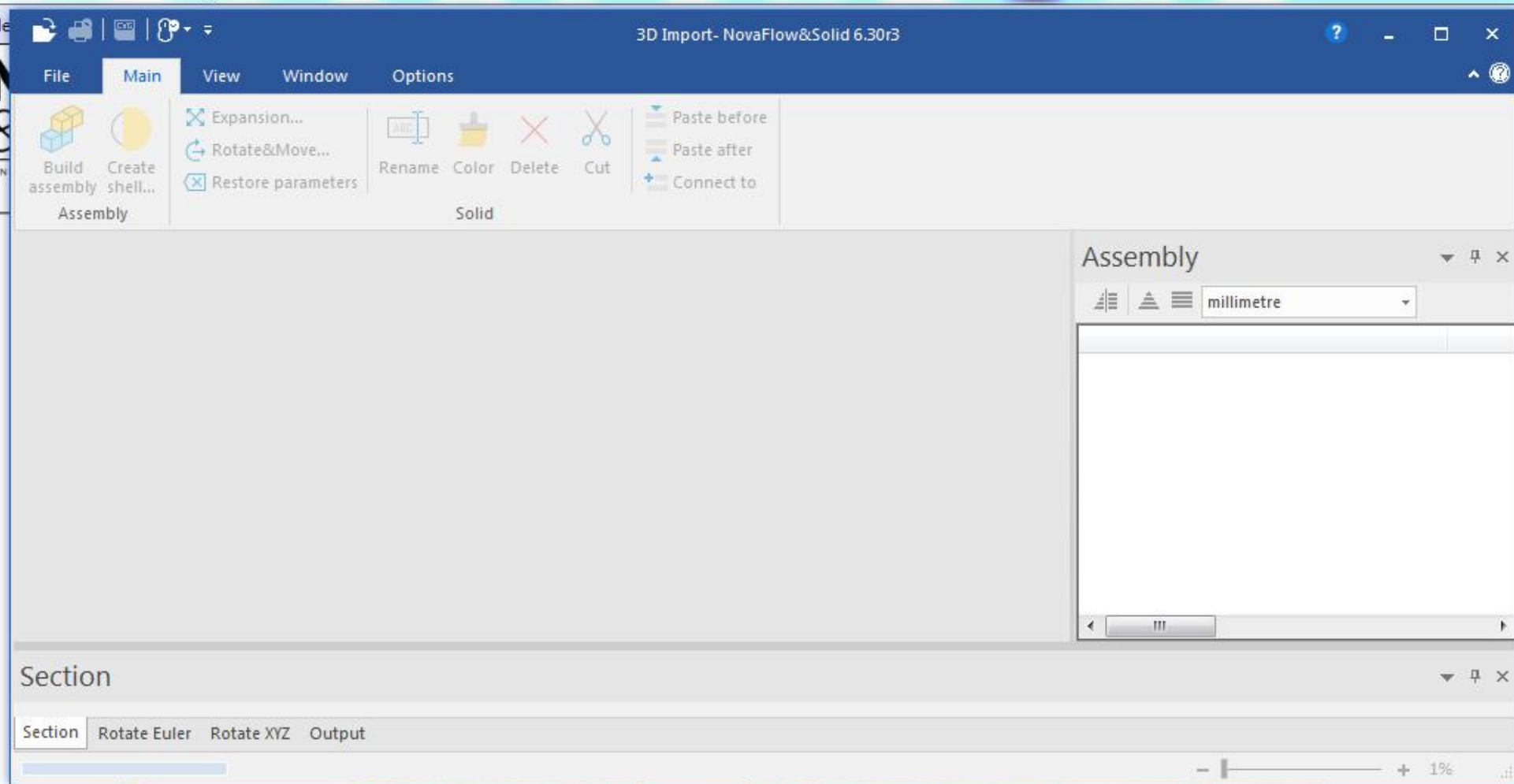


Çizilmiş katı modellerin alındığı adım. Katı modelin alınması için stl ya da step uzantılı olması gerekmektedir.

Katı model alınır, belirlenir ve döküm pozisyonuna getirilir. Bu adımda stl olarak alınan katı model programın tanıyacağı cvg uzantılı dosya haline getirilir.



Close



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Bir önceki adımda tanıtılan dosya bu adımda otomatik olarak yüklenir. Bu dosya ile alakalı mesh, malzeme belirlenmesi, sıcaklık belirlenmesi, eğer akış simülasyonu yapılacaksa akış ile ilgili parametrelerin belirlenmesi gibi bütün hazırlıklar bu adımda gerçekleştirilir.



Close

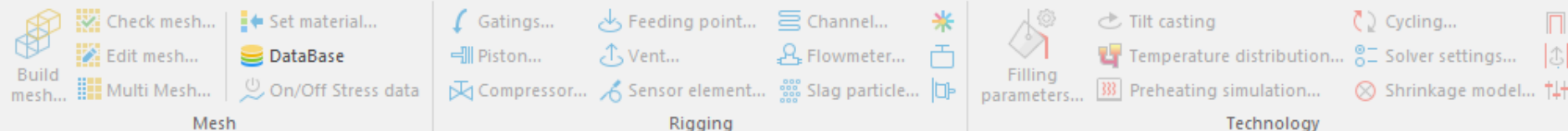
NOVAFLOW & SOLID

A NOVACAST SYSTEM

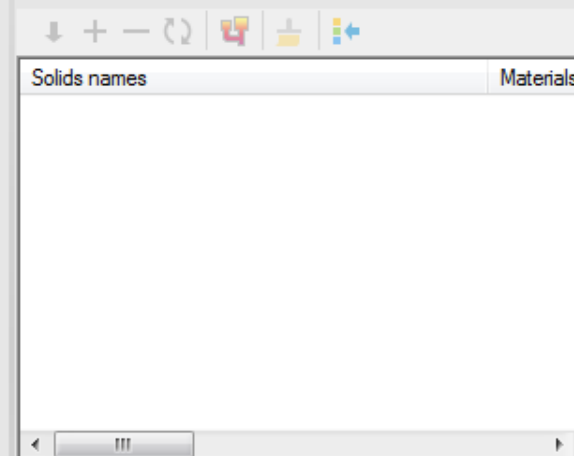
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Simulation setup- NovaFlow&Solid 6.30r3

File Main View Window Options

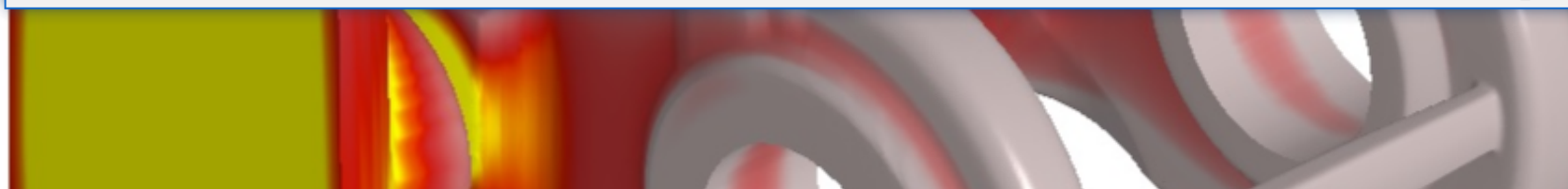


Materials



Section

Section Rotate Euler Rotate XYZ Center of rotation Output



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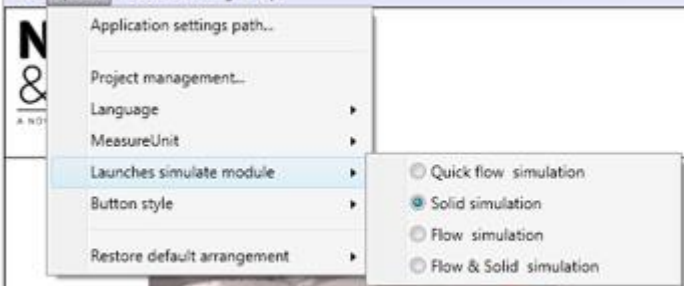


Close

NOVAFLOW

NovaFlow&Solid - Foundry Center

File Options Tools Licensing Help



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Genel menüden de görüleceği gibi dört farklı simülasyon yapma olanağı var.

- 1- Hızlı akış simülasyonu
- 2- Karışma simülasyonu
- 3- Akış simülasyonu
- 4- Akış ve katılma simülasyonu

Örneğin, hakkında hiçbir şey bilmediğiniz bir malzeme geldiğinde kalıp, yolluk, besleyici vs çizmeden programda direk katılaştırılabilir (Solid simulation). Bu sayede parçanın en son katılacak bölgelerini termal modülünü vs görüp yolluk nereden verilecek, besleyici nereye konulacak gibi parametrelere karar verilebilir.

Hızlı akış simülasyonunun amacı; yolluk ve besleyicide sıkıntı olup olmadığını görmek. Quick flow'da sıcaklık dikkate alınmaz sadece akışkanlar kanunları uygulanır. Flow'da sıcaklık da dikkate alınır ve dolum esnasında başlayan katılma noktaları da görülür.

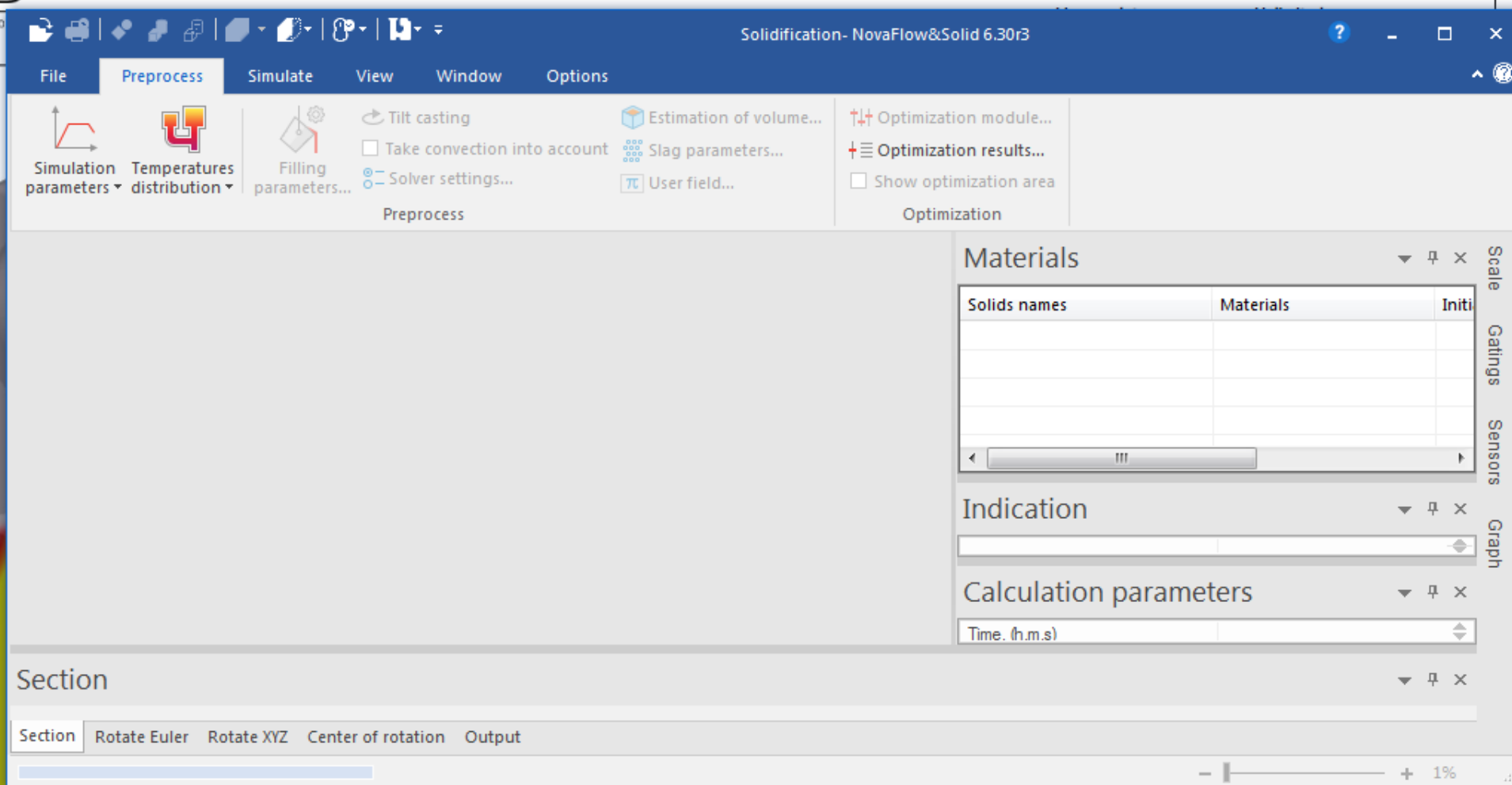
En kapsamlısı Flow & solid simülasyonu

Close

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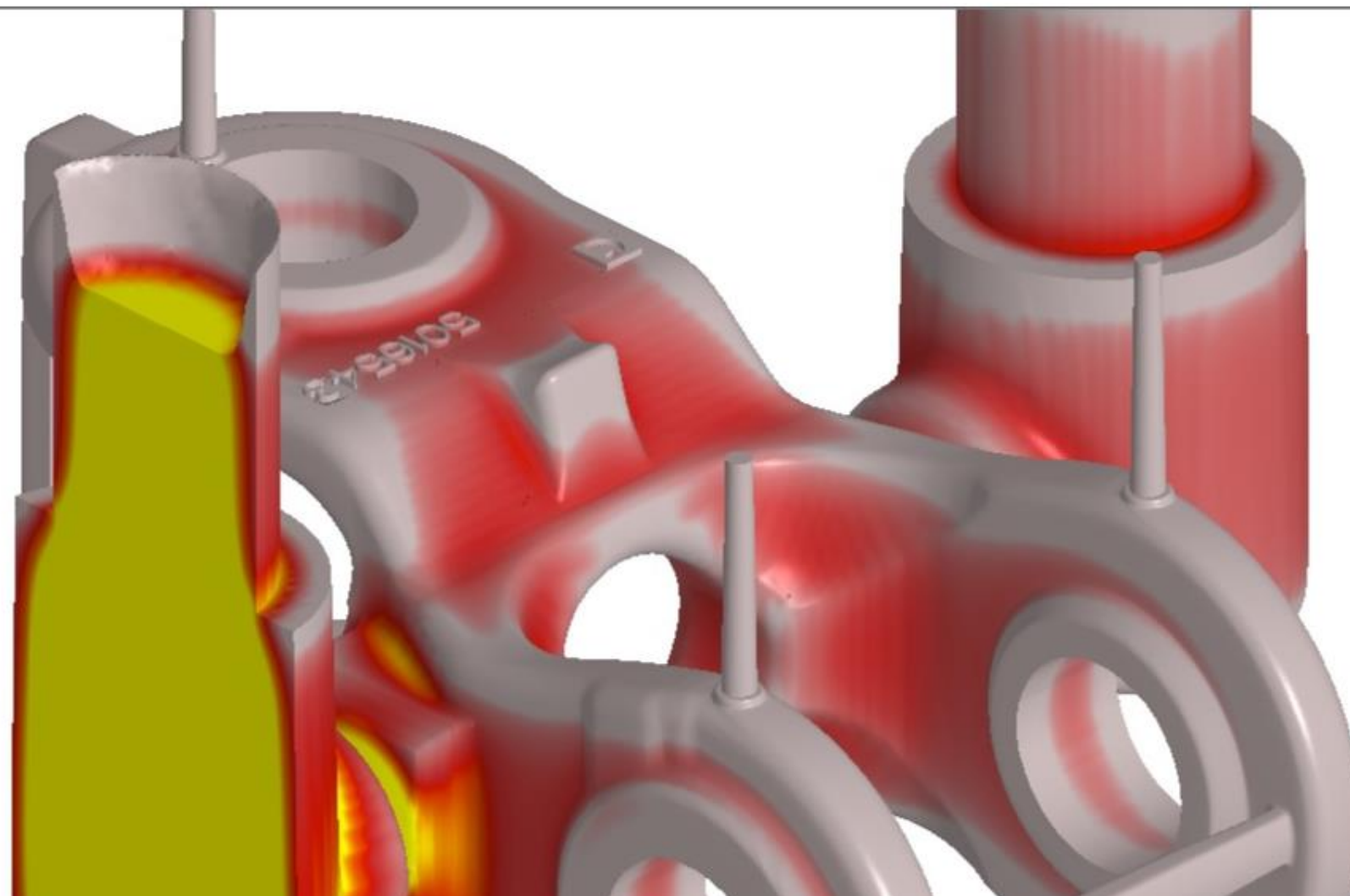
Close



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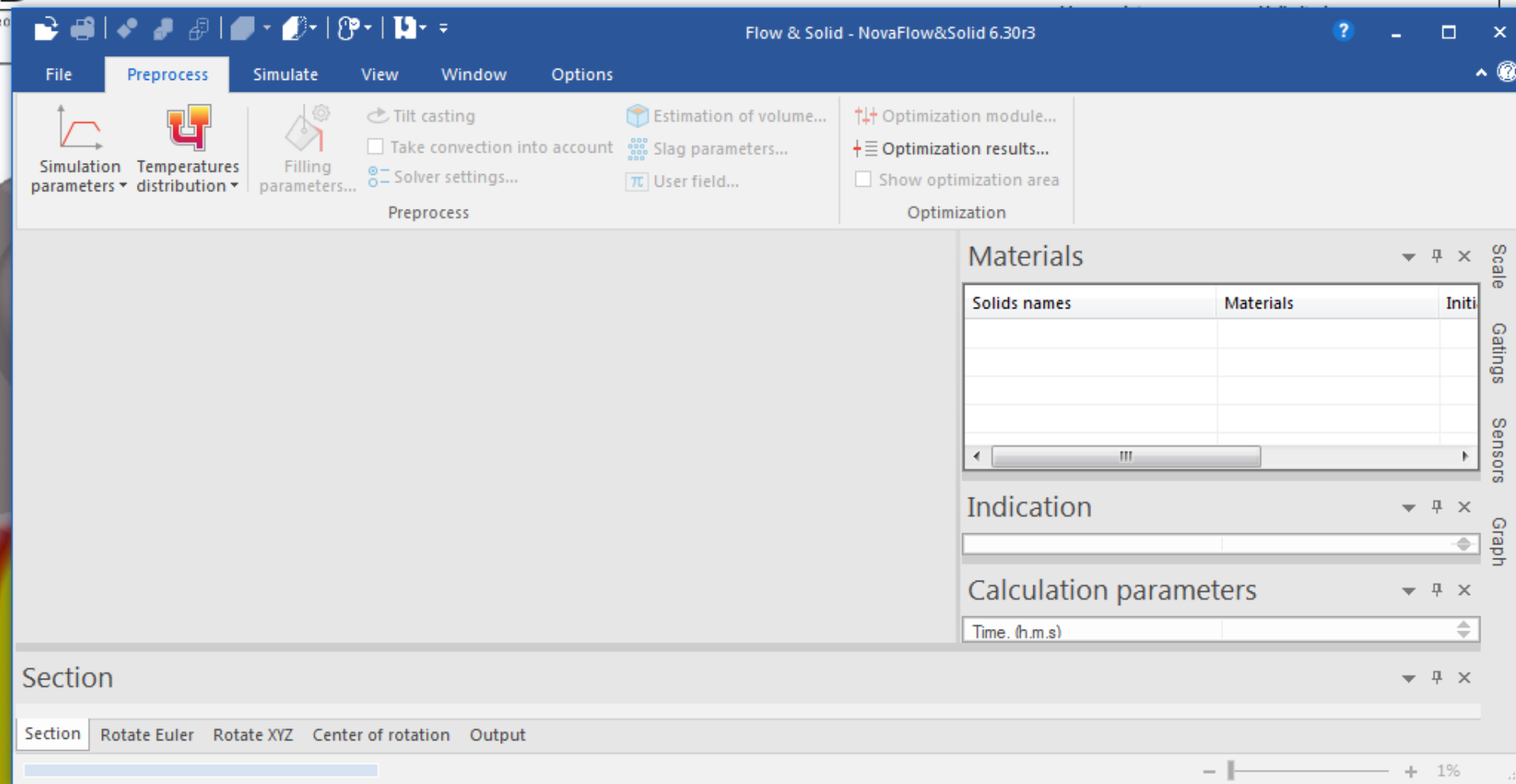


Close

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Parça üzerinde meydana gelen gerilmelerin analiz edildiği adımdır



Close



Close

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Bu adımda lisans anahtarına gerek yok. Daha önce gerçekleştirilmiş simülasyonların sonuçları bu adımda incelenir. Simülasyon yapılırken başında beklemeye gerek yoktur. Sonradan bu adım kullanılarak istenilen noktada istenilen özellik incelenebilir. Ayrıca, resim, video veya rapor oluşturma burada yapılır.



Close

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Browser- NovaFlow&Solid 6.30r3

File Main View Window Options

Records

Postprocess

Nodes

Materials

Indication

Records

Section

Solids names	Materials	Initial temperature

Time, (h,m,s)	Filled volume, %	Mass, kg

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NovaCast firması çevre ve yeşil ile ilgili firma. Bu adımda enerji kullanımı ile alakalı indekslerle ilgilidir.



Close

Name

New Product

Open Product

Save Product

Add iteration

Alloy

Furnace

Material Cost

Melting Cost

Energy Price

Melt Loss

Scrap Rate

Source

Iteration	#
Input Data	
Part(s) Weight	Kg
Feeder Weight	Kg
Ingate Weight	Kg
Total Weight	Kg
Mould Weight	Kg
Liquidus temp	°C
Technical Results	
Weight savings	Kg
Casting yield	
Yield improvement	
Casting/mould ratio	
Simulation Results	
Volume shrinkage	
Init. casting temp	°C
Solidification time	s
Max. geometrical modulus	cm
Minimum time to shake-out	min
Environmental Results	
Material cost savings	€
Energy savings	€
Total cost savings	€
CO2 emission melting	Kg
CO2 emission energy production	Kg
CO2 emission total	Kg
Energy consumption	KWh
Electrical cost	€

Open Product

or

New Product

Method
Report
Setup
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Close

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Programın kalbi bu adımdır. Standartlara uygun Kalıp malzemeleri ve özellikleri, dökülecek malzemeler ve özellikleri ve diğerlerinin görüntülenip gerekirse modifiye edilebilecek adımdır. Bu adımda programda tanımlı olan malzemeler ilave olarak kendimiz de malzeme eklenebilir. Mevcut malzemeler üzerinden giderek farklı malzemeler oluşturabiliriz. Malzeme ilave ederken JMatPro karakterizasyon programından alınan bilgiler kullanılabilir.



Close

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Database- NovaFlow&Solid 6.30r3 - C:\Novacast Systems\NFS_6.3r32\System\Material_4.7r5.sdf

File Materials View Window Options

Coating...
More materials

Slag particle...
More materials

Add...
Materials

Change...
Materials

Copy...
Materials

Cut
Materials

Copy to other class...
Materials

Import JMatPro data from file...
Materials

Change two-phase zone...
Materials

Calculate the User's integral plot by phase data
Property

Add point...
Property

Change point...
Property

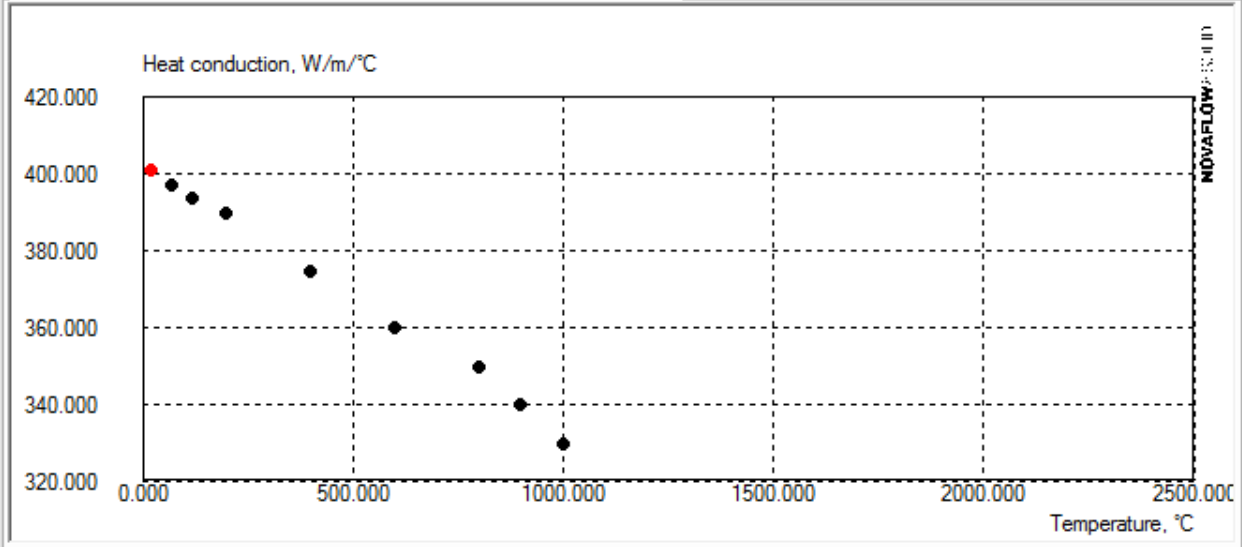
Cut point
Property

+HB Hardness...
Property

±ρ Density calibration...
Property

σ Analysis of stress & strain
Property

[Chill - Beryllium Cu]- Heat conduction



Output

Materials

Mould materials

Alloys/Mould material	Material
Chill - Beryllium Cu	Mould r
Chill - Bronze	Mould r
Chill - Carbon Steel	Mould r

Properties data

N	T, °C	Heat conduction, W/m
1	20.000	401.2
2	70.000	397.2
3	1000.000	330.0

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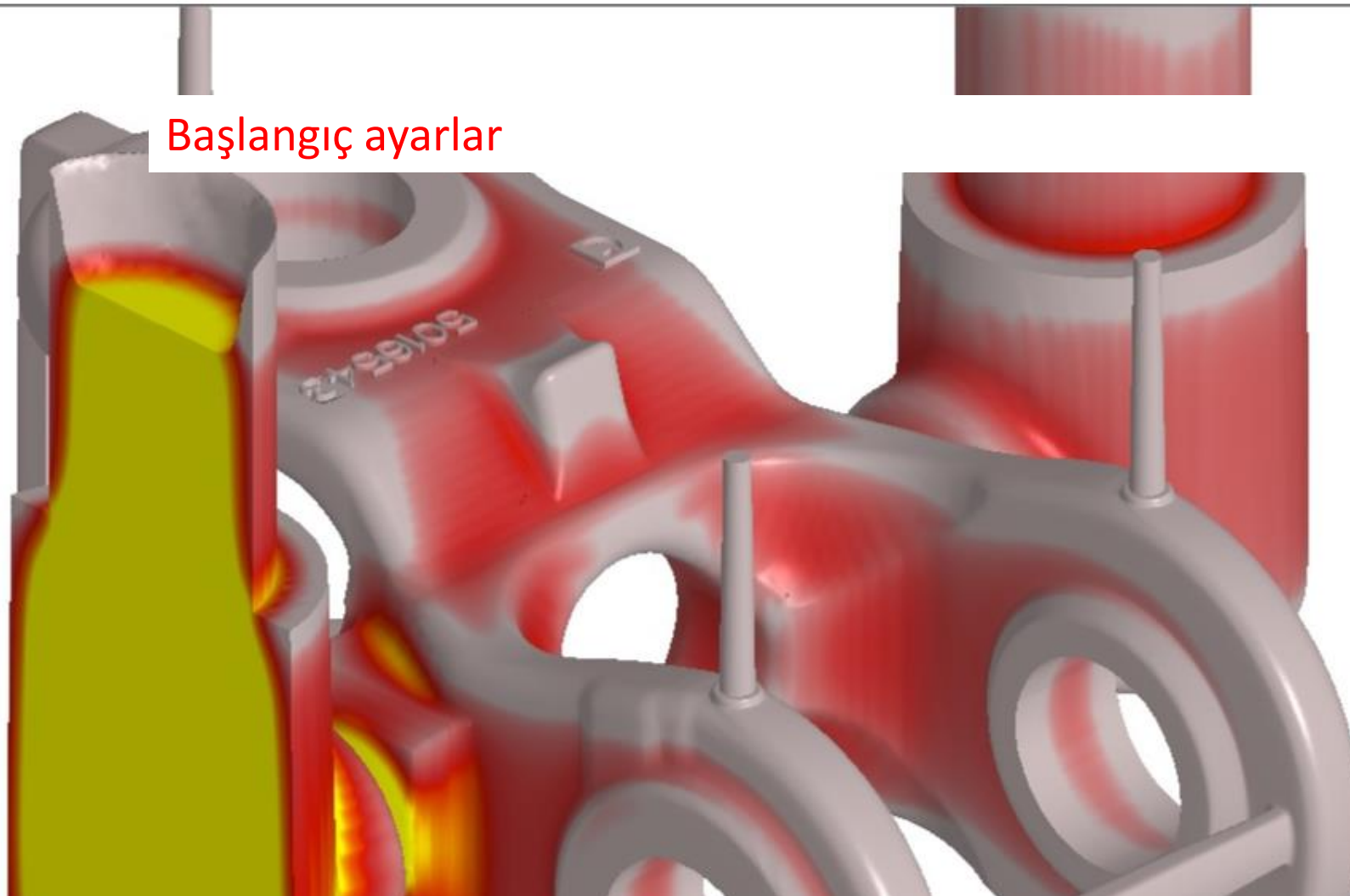
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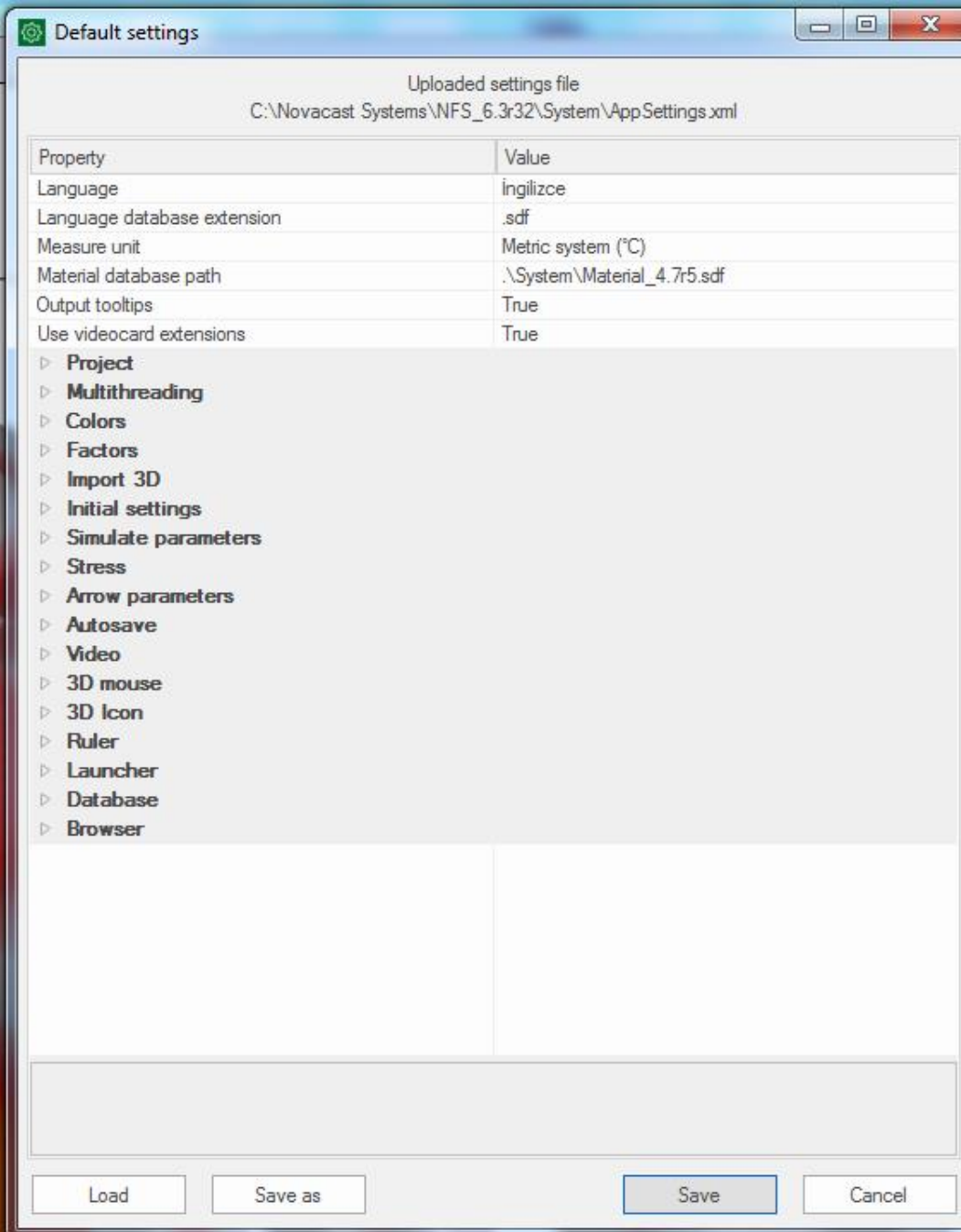
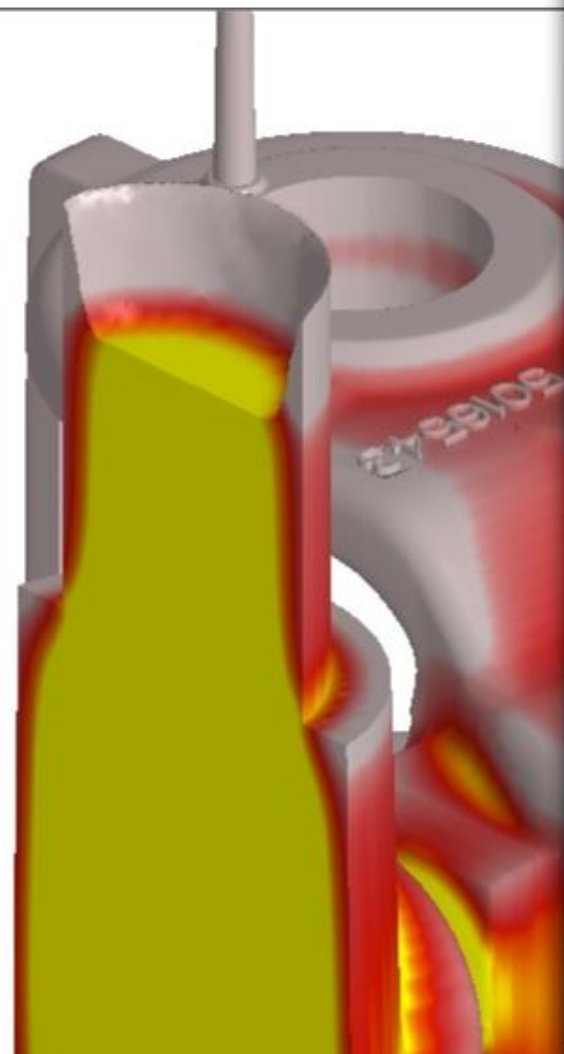
Başlangıç ayarlar



Close

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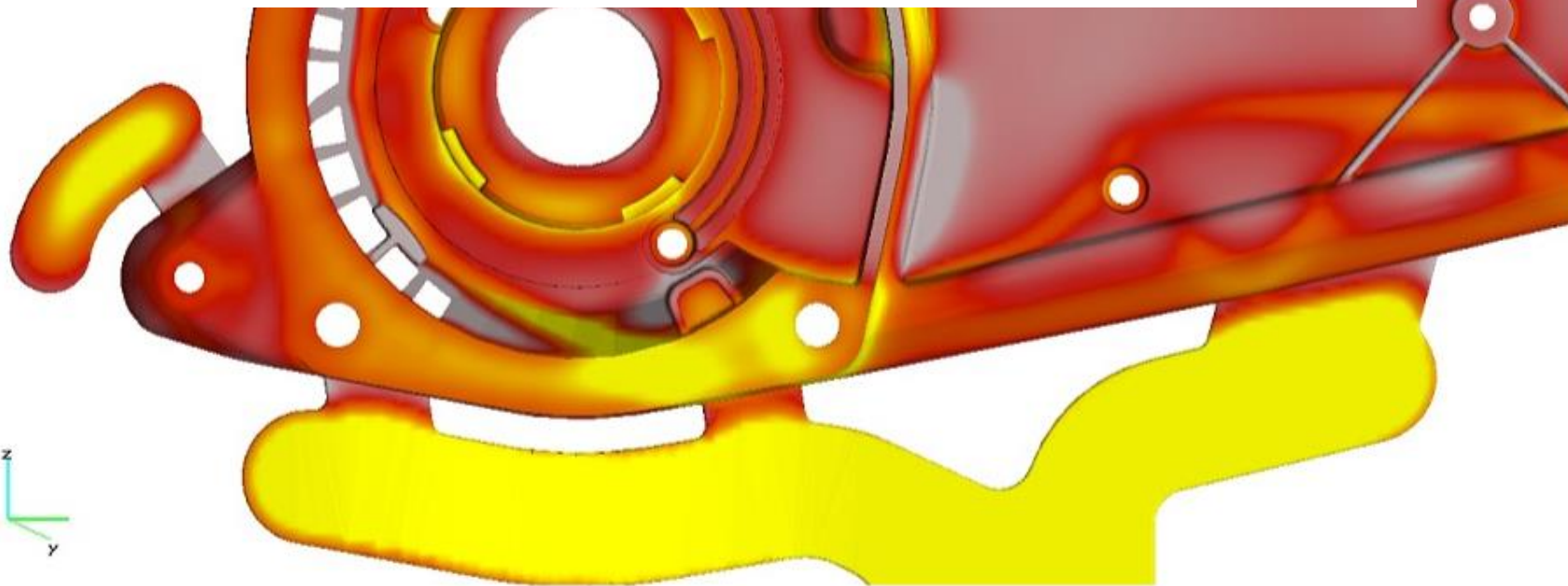
Close

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HPDC

Özelliklerin daha rahat kullanılması için. Ek olarak NovaShot adımı vardır. Bu adımda, Al yüksek basınçlı dökümde kullanılan makineler, dökülen parçanın ağırlığı gibi parametreler giriliyor.



Close

NovaShot

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Unlimited

FILE DATA HELP

Report EN Units

PROJECT CASTING AND MACHINE SLOW SHOT FAST SHOT VENTING

Project data

Project name	New project
Date	17.02.2019 15
Customer	
Author	

Description

NOVASHOT

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Powered by ForCasts



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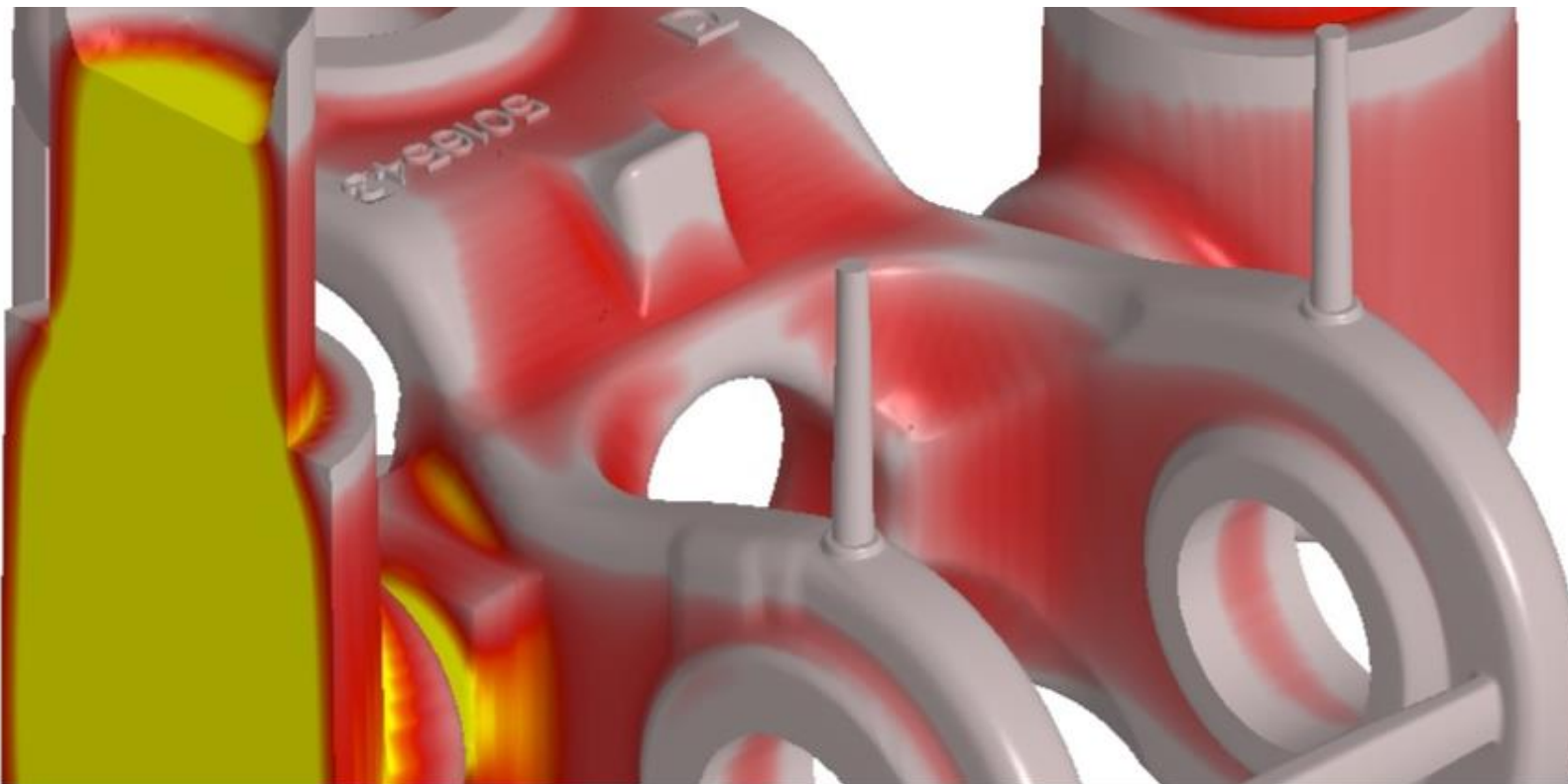


Close

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Bu da sadece dökme demirlerin simüle edileceği program. Bu programın Database adımında dökme demirler dışında diğer malzemeleri göremezsiniz.



Close

NOVAFLOW &SOLID

A NOVACAST SYSTEM

Version : 6.30 release 3
Link date : 11.09.2017
License holder : Bursa Teknik Universitesi

Database- NovaFlow&Solid 6.30r3 - C:\Novacast Systems\NFS_6.3r32_Iron\System\Material_6.3r1.sdf

File Materials View Window Options

Coating...
More materials

Slag particle...
More materials

Add...
Materials

Change...
Materials

Copy...
Materials

Cut
Materials

Copy to other class...
Materials

Import JMatPro data from file...
Materials

Change two-phase zone...
Materials

Calculate the User's integral plot by phase data
Property

Add point...
Property

Change point...
Property

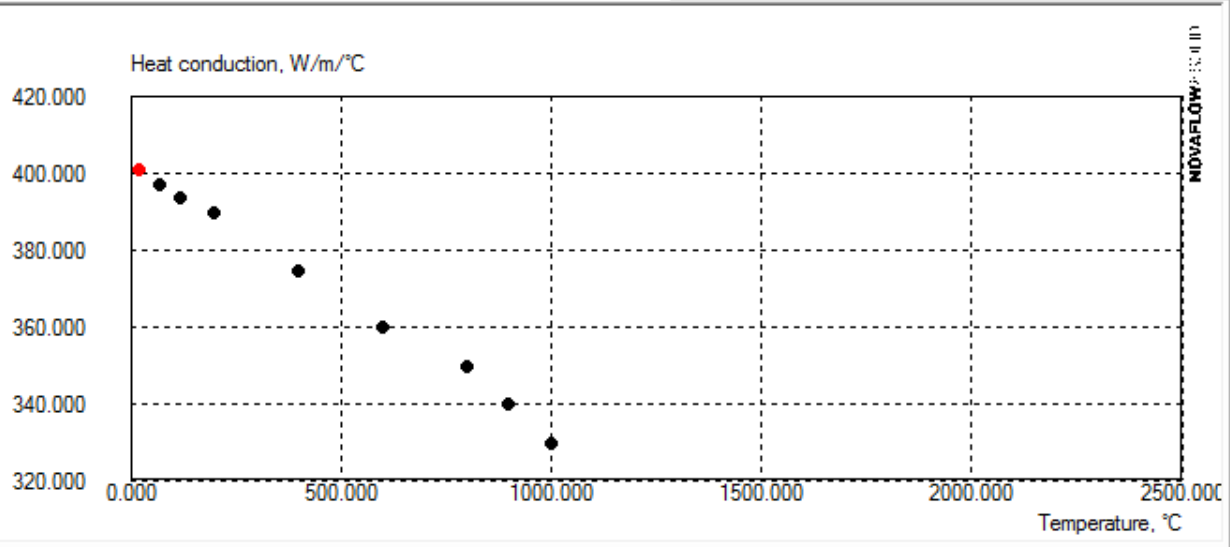
Cut point
Property

+HB Hardness...
Property

±ρ Density calibration...
Property

σ Analysis of stress & strain
Property

[Chill - Beryllium Cu]- Heat conduction



Materials

Mould materials
 Carbon steels
 Low alloyed steels
 Manganese steels
 Gray cast irons
 Ductile cast irons
 Malleable cast irons
 Common Grey iron
 Common Ductile iron
 Common

Material
 Mould r
 Mould r
 Mould r

N	T, °C	Heat conduction, W/m
1	20.000	401.2
2	70.000	397.2
3	1000.000	330.0

Output

- NovaMethod
- 3D Import
- Simulation setup
- Solidification
- Flow & Solid
- NovaStress
- Browser
- Good Guys' Index
- Database
- Default settings



Close