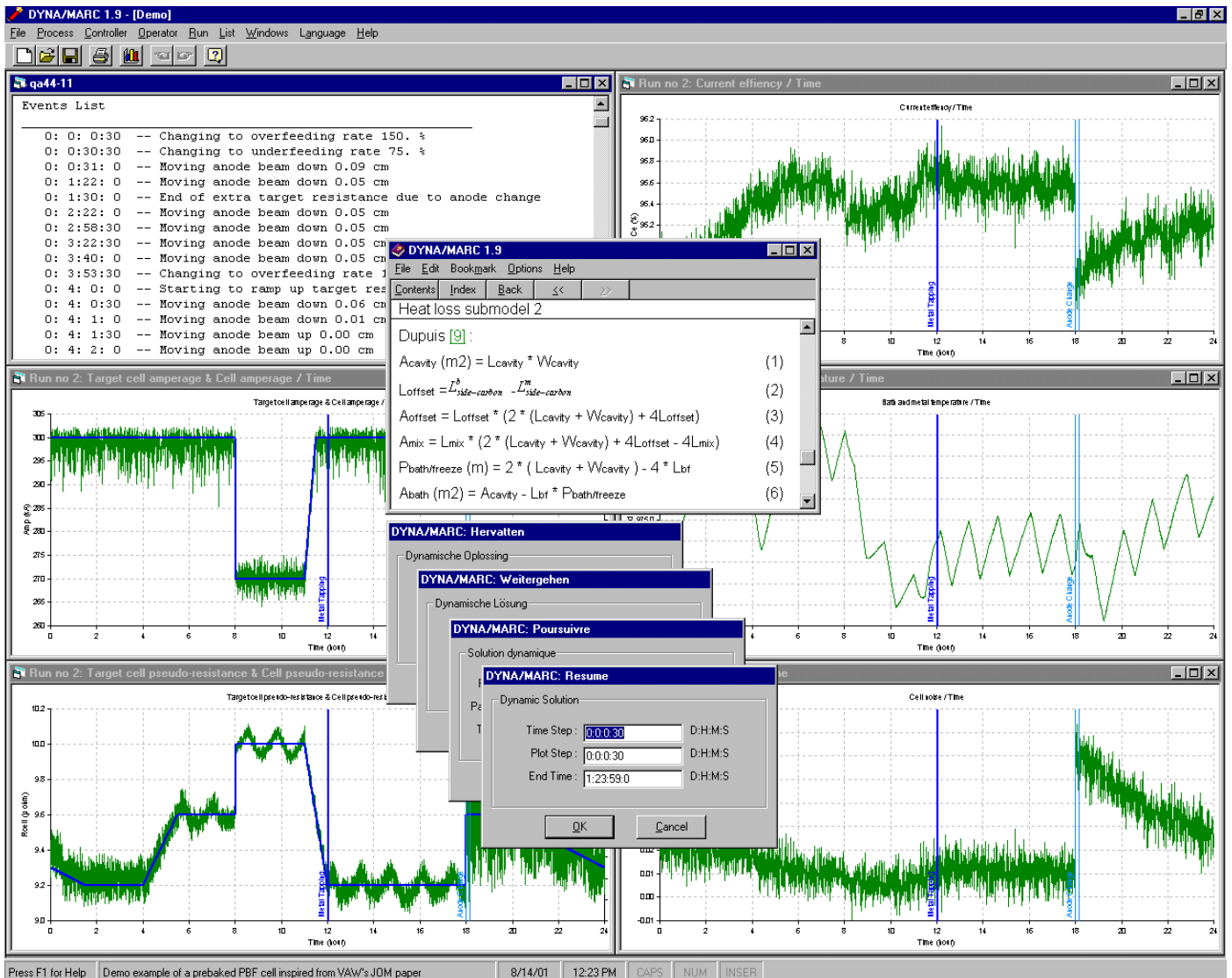


DYNA/MARC

DYNAMIC Model of an Aluminium Reduction Cell



GENISIM

DYNA/MARC 1.9

Highlights list

- Comprehensive menu system structured around potroom operation concepts;
- Dynamic run with unlimited number of interactive graphics display;
- Interrupt, control parameter adjustment and resume capabilities during dynamic run;
- Restart capabilities at the end of a dynamic run;
- 4 new sub-models that compute anode and cathode drop, anode panel heat loss and cathode bottom heat loss;
- Cell noise submodel and instability control mode;
- Amperage fluctuation submodel with current curtailment and voltage treatment control;
- Different continuous tracking resistance control mode;
- Lillebuen and Solli current efficiency submodels;
- AlF_3 dissolution submodel;
- Bath sampling and bath ratio feedback control;
- Advance coupling options like CE proportional to noise etc;
- Impact of noise on CE computed even in steady state runs;
- Monte Carlo risk assessment statistical analysis;
- Completely integrated user and theoretical manual featuring all the theoretical equations of each process submodel;
- Context sensitive on-line help using the same above manual;
- Visual Basic 5.0 Graphic user interface;
- English, French, German and Dutch menus / panels / graphs / printouts;
- Digital Fortran 5.0 dynamic link library solver kernel;
- Hot line support directly from the code developer.

For more information, contact:

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Internet: <http://www.genisim.com>

DYNA/MARC 1.9

Price list

- **Option A:**

1. Company wide unlimited number of users, unlimited number of sites permanent license of Dyna/Marc 1.9 executable with 3 months support: \$20,000 US
2. Annual support including hot line support (one contact person) and code release updates: \$5,000 US

- **Option B:**

1. Company wide unlimited number of users, unlimited number of sites permanent license of Dyna/Marc 1.9 solver source code and Dyna/Marc 1.9 graphic user interface (GUI) executable with 3 months support: \$30,000 US
2. Annual support including hot line support (one contact person) and code release updates: \$7,500 US

- **Option C:**

1. Company wide unlimited number of users, unlimited number of sites permanent license of Dyna/Marc 1.9 solver source code and Dyna/Marc 1.9 GUI source code with 3 months support: \$40,000 US
2. Annual support including hot line support (one contact person) and code release updates: \$10,000 US

- **Option D:**

1. Company wide unlimited number of users, unlimited number of sites permanent license of Dyna/Marc 1.9 solver source code only (no GUI provided) with 3 months support: \$20,000 US
2. Annual support including hot line support (one contact person) and code release updates: \$5,000 US

For more information, contact:

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Dynamarc - Microsoft Visual Basic [création]

Echier Edition Affichage Projet Format Débogage Exécution Outils Compléments Fenêtre ?

0,0 4665 x 2895

Dynamarc - frmAbout (Form)

About DYNA/MARC

DYNA/MARC: Version 1.3
 Release Date: 28 February 1999
 Copyright © 1997 1998 1999
 GénSim Inc.

For customer support contact:
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Dynamarc - Form24 (Form)

DYNA/MARC: Dynamic

Dynamic Solution

Time Step: 0:0:20 D:H:M:S
 Plot Step: 0:0:20 D:H:M:S
 End Time: 1:0:00 D:H:M:S

Dynamarc - Form23 (Form)

DYNA/MARC: Steady State

List of Dynamic Variables

	Initial Value		Set as Target
Anode to Cathode Distance	5	cm	<input checked="" type="radio"/>
Conc. of Excess Aluminum Fluoride	8.5	%	<input type="radio"/>
Concentration of Dissolved Alumina	2	%	<input type="radio"/>
Concentration of Calcium Fluoride	3	%	<input type="radio"/>
Concentration of Lithium Fluoride	0.2	%	<input type="radio"/>
Concentration of Magnesium Fluoride	0.2	%	<input type="radio"/>
Bath Level	20	cm	<input type="radio"/>
Metal Level	18	cm	<input type="radio"/>
Cell Operating Temperature	975	°C	<input type="radio"/>
Anode Beam Position	15	cm	<input type="radio"/>

Dynamarc - Form24 (Code)

```

Command1
Private Sub Command1_Click()
If Text1.Text = "0:0:0:0"
MsgBox ("You must enter")
Text1.SetFocus
Exit Sub
End If
If Text2.Text = "0:0:0:0"
MsgBox ("You must enter")
Text2.SetFocus
Exit Sub
End If
If Text3.Text = "0:0:0:0"
MsgBox ("You must enter")
Text3.SetFocus
Exit Sub
End If
Localdata.DoitSaver = True
Inputdata2.Vect(Dtstep) =
Inputdata.Dpstep = Dhms_M
Localdata.Endtim = Dhms_M
Inputdata.Endtim = Dhms_M
If Inputdata.Endtim / Inp
MsgBox ("You are limite
Text3.SetFocus

```

Projet - Dynamarc

- Form1 (Main.frm)
- Form10 (ACD.frm)
- Form11 (amperage fluctuation.frm)
- Form12 (resistance.frm)
- Form13 (ideal.frm)
- Form14 (pechiney.frm)
- Form15 (demand.frm)
- Form16 (Ratio control.frm)
- Form17 (AE quenching.frm)
- Form18 (metal tapping.frm)
- Form19 (anode change.frm)
- Form2 (project.frm)
- Form20 (beam raising.frm)
- Form21 (bath additives.frm)
- Form22 (bath transfusion.frm)
- Form23 (steady state.frm)
- Form24 (dynamic.frm)

Propriétés - Form24

Form24 Form

Alphabétique Par catégorie

(Name)	Form24
Appearance	1 - 3D
AutoRedraw	False
BackColor	&H8000000F&
BorderStyle	3 - Fixed Dialog
Caption	DYNA/MARC: Dynamic
ClipControls	False
ControlBox	False
DrawMode	13 - Copy Pen
DrawStyle	0 - Solid
DrawWidth	1
Enabled	True
FillColor	&H00000000&
FillStyle	1 - Transparent

(Name)
Renvoie le nom utilisé dans le code pour identifier un objet.

marcdll7 - Microsoft Developer Studio [break] - [C:\...\marcdll7\marc\marc.for]

File Edit View Insert Project Debug Tools Window Help

alff

```

C
C
C
Process model

if ( a%nmode .eq. 'on' ) call acdfluc(a,b)
if ( a%amode .eq. 'on' ) call ampfluc(a,b)
call percent(a,b)
if ( a%lmode .eq. 'dewing' ) call dewing(a,b)
if ( a%lmode .eq. 'solheim' ) call solheim(a,b)
call bathres(a,b)
call param3(a,b)
call cellce(a,b)
call bathvol(a,b)
call elecvol(a,b)
call makmet2(a,b)
call evap(a,b)
call int2heat(a,b)
call ti2kasz(a,b)
call dupuis(a,b)
call stefan(a,b)
call balance(a,b)
call rate(a,b)
if ( a%time .ne. 0. ) then
if (dabs(a%time/a%dpstep-int(a%time/a%dpstep+1d-6)).lt.1d-6)then
b%pct = b%pct + 1
call printf(a,b)
endif
endif
call newstep(a,b)

```

Context: dynastep()

Name	Value
A%LCAVITY	9.00000000000000
A%WCAVITY	4.50000000000000
A%LANODE	8.00000000000000
A%WANODE	3.00000000000000
A%NBANODE	1.00000000000000
A%TFEED	25.0000000000000
A%DENSMET	2300.00000000000
A%DENSBATH	2000.00000000000
A%CPMETAL	1085.00000000000
A%CPBATH	1650.00000000000

Name

Name	Value
B%ANODES	24.0000000000000
B%ABATH	37.6005611617749
B%ACAVITY	40.5000000000000
B%ACD	4.72241152735213
B%AMETAL	27.5964728172228
B%CALFEX	8.00000000000000
B%CALOSAT	8.36546518931662
B%CALOSOL	4.00000000000000
B%CCAF	3.50000000000000
B%CCRYOLT	84.5000000000000
B%CD	0.750000000000000
B%CDAT	0.734043862683236

Locals Watch1 Watch2 Watch3 Watch4