

# THERMAL CURE PREDICTION SOFTWARE

**PURPOSE:** Software to Predict Thermal Cure Times for Elastomeric Conveyor Belts.

HLA was responsible for developing the Thermal Cure Prediction Software for Elastomeric Conveyor Belts. The Program utilized a Graphical User Interface (GUI) with features for creating / editing / formatting and accessing the construction, thermal material properties, cure press parameters, etc. for predicting the cure time of belts. A database driven software application was developed using advanced encryption, archival and communication tools for data security and access. The software was intended for use by individual manufacturing plants. Sensitive material and construction data and features were stored in a central server from where information could be accessed and updated, in a client-server Windows based Network application.

## Key Features of the Program include:

- Data Encryption and security.
- Automatic Data Backup and Archive
- Data Compression
- Automatic Usage Logs
- Automatic Prediction Logs
- Automatic program and data updates
- Communication using TCP/IP and FTP
- Modem Communication
- Remote Access using SecureID

**Results Summary**  
ANALYSIS SUMMARY  
(Based on Global Minimum State of Cure)

Optimum Cure Time: 17 Min 24 Sec

Time to Reach 25.0 % Cure State = 13.06 Min  
Cure State at Press Open (Time = 17.24 Min) = 75.1 %  
Cure State at Clamps Close (Time = 20.24 Min) = 87.8 %  
Time to Reach 90.0 % Cure State = 22.51 Min  
Cure State after Cool Down (Time = 43.08 Min) = 90.0 %

Product Code : 60525104541604  
Revision Number : 0005  
Total Gauge : 0.535 inch  
Press Model : Press 3  
Cure Temp : 302 F

State of Cure Targets :  
Min : 25%  
Max : 90%

Date : Mar 20, 2000  
Time : 13:48:36  
User : Dipen

Distribution through each layer (CEq2 at 320 F)				
Layer1	Cure Min: 98.70 %	Max: 99.30 %	CEq2 Min: 9.51	Max: 10.44
Layer2	Cure Min: 90.00 %	Max: 93.20 %	CEq2 Min: 9.12	Max: 10.00
Layer3	Cure Min: 99.50 %	Max: 99.60 %	CEq2 Min: 10.82	Max: 11.33

Buttons: View Analysis Files, Print, Exit

**Options**

Modem Settings | Remote Access | User Accounts | Communications | Advanced RAS

Download Files | Advanced Cure Settings | Administration

Directories and Files | MAPICS Update | Synchronize INI Files | Archive Data Files

Advanced Settings

Units: English (selected) Metric

Cure Equivalent Temperature: 160 Deg C

Maximum Gauge: 2 inch

PFI Cure Limits: Min 25 % Max 90 %

Time Before PFI Form Closes: 5 Min

Prediction Log: Keep Log of last 30 Days

Check Directories and Files at Login  Restrict 14 digit Product Codes

Buttons: Print, OK, Cancel, Apply

- User Accounts and User Management
- Data Synchronization
- FEA based Thermal Cure Prediction
- Mixed Language Programming
- Modular DLL construction
- ActiveX DLL and Components
- Encryption Algorithms
- IBM Global and SecureID Access
- Y2K Compliance and Conversion.



**HLA ENGINEERS, INC.**  
7267 ENVOY COURT, DALLAS, TX 75247

(214) 267-0930 (214) 267-0970 FAX