

Metal Forming Simulation Technology In-Plant Training Agenda (Sample)

Full Day Training

Designed for Die Engineers, Die Makers, Die Repair, Die Tryout Personnel and Apprentices

Morning Session (3-1/2 hours)

Introduction(s)

Material Specifications and Properties

- Material Standards
- Material Certifications
- Uniaxial Tensile Test
- Stress-Strain Relationships
- Elongation Types (Uniform, Local, Total)
- Work Hardening
- Strain Rate Hardening
- n, r, and m-value

Surface Strain Analysis

- Circle Grid Analysis
- Reading Surface Strains
- Plotting Strains
- Calculating Thickness Strains

The Forming Limit Diagram

- Methodology
- Forming Limit Curve
- Forming Modes
- Safety Zones
- Thinning Limit Strains

PMA in-plant training programs are fully customizable. Subjects in this agenda can be removed, replaced or additional topics added from other PMA in-plant training programs.

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Afternoon Session (3- hours)

Computer Assisted Process Simulation

- An Engineering Approach
- Inverse Method & Applications
- Incremental Method & Applications
- Simulation Inputs
- Simulation Outputs
- Interpreting Results
- Available Software

Practical Applications in Metal Stamping

- Die Process and Estimating
- Product Development (Case Study)
- Blank Optimization (Case Study)
- Problem Solving in Production (Case Study)