

Fundamental Principles for Die Design In-Plant Training Agenda (Sample)

Full Day Training

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

Morning Session (3-1/2 hours)

Introduction(s)

Effects of Press Capacity on Die Design

- Forward Tonnage
- Reverse Tonnage (Blanking Operations)
- Press Energy (Deep Drawing Operations)
- Counterbalance Pressure
- Off-Center Loading (Tipping Moments)

Progressive Die Carrier Design

- Strip Evaluation & Ranking Method
- Solid Carriers
- Lance Carriers
- One-Side Carriers
- Two-Side Carriers
- Center Carriers
- Inboard Carriers

Feeding and Strip Guiding

- Rail Design
- Stock Lifters
- Pilot Design
- Pitch Stops

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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Full Day Training

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Afternoon Session (3-hours)

Cutting, Punching, and Blanking

- Cutting Clearances
- Slug Control Methods
- Match Cuts in Progressive Dies
- Shimming Considerations
- Shear Angles
- Staggered Punching
- Punch Guiding

Bending, Forming, and Flanging

- Bending Radii
- Pressure Systems/Pad Retention/Pad Balancing
- Springback Compensation Methods
- Controlling “Whiplash”
- Geometric Stiffeners
- Double Forming 90-degree Bends
- Forming Up in Progressive Dies
- Flanging Along Curved Lines
- Hole Extrusion Design

Deep Drawing

- Add PMA’s *Deep Draw Tooling Technology* training program to this agenda (additional 6.5 hours of training)

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