Why Die Casting?

- Die castings are specified for high volume production parts when strength, weight control, long service life, contours and complex shapes, textures and finishes, blind holes, external threads, projections, durability and repeatable accuracy are required.

- Aluminum die cast parts are lighter, dimensionally stable, and offer good mechanical properties and corrosion resistance. Parts can withstand temperatures from 300° to 600°F (continuous), provide electrical or thermal conductivity and good heat dissipation.

- Production advantages include fast delivery, minimal secondary operations and low unit costs.

- Die casting is very often the superior choice over stamping, forging, permanent mold, sand casting or plastic molding.

Why Yoder Industries?

Quality & Process Control

- Closed Loop and Visi-Trak® process shot monitoring system
- Fully equipped QA lab with real time X-ray, spectrograph alloy analysis and 60,000 lb Instron tensile testing machine – ASTM compliant

Engineering & Design

- Advanced engineer design support
- MAGMAsoft® HPDC mold flow software and casting design
- Mold Flow Analysis for all programs
- Fast prototype tooling and die cast parts
- Cost saving design solutions

Capabilities

- Two full service die casting facilities
- Complete “net shape” finishing and assembly
- Machining, flow through/tumble shot blast finish, wash, and leak test
- Unparalleled automotive expertise over 30 years
  - Specialize in automotive castings for:
    - Electronic Control Modules - Heat Sink
    - Dual Clutch Transmission (DCT) - Heat Sink
    - Electronic Power Steering
    - Rubber-to-metal applications for Engine and Transmission Mounts
    - Cast-in bearings and flash-free threaded studs and inserts
    - Variable Valve Timing (VVT), Chassis and Powertrain

YODER ALUMINUM & ZINC DIE CASTING ALLOYS

Source: North American Die Casting Assoc. - ASTM B85-92a; Aluminum Assoc., ASTM B86, ASTM B791
DRAFT ANGLES
(metric)

Example: To determine the amount of taper per side for a die cast part having a draft angle of 2° per side for a distance of 8 mm:

In the “Distance” column, go down to 8 mm, then across to the column showing the 2° taper. The amount of taper shown here is .279 mm per side.

To determine distances greater than 25.40 mm, i.e. for 37.4 mm distance, take the figure for 25.4 mm distance plus the figure for the 12.0 mm distance.

Example: 25.4 @ 2° = .887 mm
+ 12.0 @ 2° = .419 mm
37.4 @ 2° = 1.306 mm
DRAFT REQUIREMENTS IN CORED HOLES

**EXAMPLE:** In an aluminum die casting, a cored cylindrical hole that is 23.1 mm deep will have a total draft of 3°, or 1½° per side, which is 1.21 mm total draft (taper), or 0.605 mm draft (taper) per side.

Note - The values shown herein represent normal production practice at the most economic level. Lesser draft involving extra close work or care in production should be specified only when and where necessary since additional cost may be involved.

**METRIC EQUIVALENTS**

**CONVERSION FORMULAS**

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<th>To</th>
<th>Multiply By</th>
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<td>millimeter</td>
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<td>inch³</td>
<td>centimeter³</td>
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<td>oz. (avdp.)</td>
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