



Chicago White Metal Casting
*High-Tech Al, Mg, & Zn Die Casting and
Miniature 4-Slide Zn & ZA-8 Die Cast Parts*
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Report on Design News Survey of U.S. Design Engineers and Key Resources Available 24/7

Salary Gains, but Added Duties—Look to the DC² Center to Broaden Your Knowledge Base

Two-Part Tech Brief:

1. Study shows improved engineering salaries with increased job satisfaction, but new stresses from insecurities, added duties. Design News editor points to value of broadening one's knowledge base.

2. CWM's unique data library, online 24/7, gives OEM's considering designing for the die casting process a valuable source for initial review: this tailored introduction lists key design engineer resources.

Part 1

The publication of Design News magazine's latest survey of its design engineering audience reports positive news on salaries, up 4.3% on average in 2011, for the first time in two years despite the struggling economy.

But while career satisfaction remained high – with 78% saying they would recommend the design engineering profession to their children – rising stress levels and concerns about job security were noted by a majority of respondents.

Downsizing, Additional Duties

For example, 28% reported company downsizing in the past six months, with 38% of those stating this had resulted in additional responsibilities for them and in specific cases no changes in project lead-time requirements. For many, more work included more managerial duties – the average number of employees supervised

jumped from 11 in 2009 to 15 in 2010 to 26 in this 2011 survey.

Design News editorial director Alexander Wolfe pointed out the value for product designers and engineers to avoid resting on their domain-knowledge laurels. It's no longer enough to be knowledgeable in one particular sector, one area of technology. Now's the time to broaden one's knowledge base and skill set. One immediate benefit is the contribution to more cost-effective designs, he stated.

Broadening Your Tech Data Base

In the area of designing custom components for custom manufacturing processes, leading processors have regularly offered substantive consultation services to OEM engineers and purchasing specifiers to aid in optimizing designs for their process.

Over the last decade Chicago White Metal Casting has in addition devoted significant resources to creating a broad, accessible knowledge base for OEM designers and engineers considering alternate processes in the early stages of a product's design. For engineers evaluating custom die casting as a process alternative, this information and data source can be invaluable in making personal consultations more efficient, informative and productive.

Today this design-for-die-casting knowledge resource (available online 24/7 at the CWM website's DC² Die Cast Design Center) is unique in its breadth and depth of information focused for use by OEM product de-



Northwestern University Design Center; Andrew Campbell Photo

signers, engineers & buyers: over 70 design guides, engineering bulletins, application-tech briefs, case studies, buyer resources and reference manuals/CD-ROMs are available, including on-demand Webinars and FAQs. Its use can mean avoiding expensive manufacturability mistakes.

Part 2

For OEMs: A Tailored Introduction to CWM's DC² Design Center

To aid in making the CWM Design Center of maximum value in the shortest time, this Tech-Brief offers three initial selected lists of OEM resources related to your design project role and your background in past use of the die casting process— taken from the 70-plus DC² document library.

All of the listed resources are available for online viewing or download at the CWM website and access to them requires only a

password log-in when visiting the Design Center, provided to you after your 1-time registration. Where suggested documents reference die casting design manuals, information is provided for ordering such manuals at special CWM OEM discounts.

The order in which the listed downloads are presented are suggestions. Any of the documents listed can be of value to OEMs interested in optimizing part design, engineering, production and purchasing.

IMPORTANT NOTE:

1. If you are viewing this downloaded PDF document in your Internet Browser, for hot-links to operate properly first close your Browser and open this PDF in your Acrobat Reader program.
2. Make certain you are logged-in at the CWM DC² Center before executing this document's hot-links.

Key Resources Recommended for Design Engineers New to Die Casting

• **Webinar: The Die Casting Process—An OEM Overview**

Especially valuable for designers & engineers new to die casting. Introduces range of applications, cost & performance benefits that maximize designs for the process. Clarifies strategic options related to part-cost reductions; alloys; machine use; tooling; surface finishing. 12 mins.

Click to view [OEM Overview Webinar](#) by immediate direct link.

• **OEM Design & Specification Guide for Custom Die Cast Components**

Guide to more cost-effective die cast part production in Al, Mg & Zn alloys for product designers & engineers. Covers range of key subjects such as prototyping alternatives, minimizing porosity, preplanning for net-shape die cast features, lowering the cost of post-casting machining and surface finishing. 16p.

Download: [OEM Design & Spec Guide](#)

• **Engineering Bulletin: Evaluating Engineering Materials**

Guide to optimum materials and alternate manufacturing process selection. Contains physical and mechanical materials properties comparison chart for the most widely used Al, Mg & Zn die casting alloys. 4p.

Download: [Evaluating Engrg. Materials](#)

• **Die Casting Design & Production Preplanning Guide for OEMs**

Comprehensive 1-page compilation of range of relevant resources (bulletins, tech briefs, guides, checklists, reference manuals) to aid OEM product designers and engineers of proposed die casting projects. Listed documents in this Preplanning guide available for download at the Die Cast Design Center upon registrant log-in.

Download: [OEM Preplanning Guide](#)

Key Resources Recommended for Engineers with Process Experience

• **Webinar: Leveraging DFM Prior to OEM Design Commitment**

Practical guidelines for OEM product designers and engineers to help assure sound design-for-manufacturing decisions prior to freezing their designs destined for Al, Mg or Zn die casting production, especially in cases where net-shape die casting part production is being planned. Can help avoid die design outcomes that are nearly always difficult and costly to alter after tooling construction has been completed. 10 mins.

Click to view [Leveraging DFM Webinar](#) by immediate direct link.

• **OEM Design & Specification Guide for Custom Die Cast Components**

Guide to more cost-effective die cast part production in Al, Mg & Zn alloys for product designers & engineers. 16p. (See fuller description under "Key Resources for Design Engineers New to Die Casting.")

Download: [OEM Design & Spec Guide](#)

• **Designing Optimum Part Shapes**

Engineering bulletin offers important pointers to aid designers and engineers in developing the optimum component configuration for cost-effective die cast processing. Provides overview of design features which enable the OEM designer to capitalize on the inherent advantages of net-shape die cast production. Covers subjects such as the instances where part flatness is critical; guidelines in changing wall thicknesses; and dimensioning datums. 3p.

Download: [Optimum Part Shapes](#)

• **Die Casting Design & Production Preplanning Guide for OEMs**

Comprehensive 1-page compilation of range of relevant resources to aid OEM product designers and engineers of proposed die casting projects. (See fuller description under "Key Resources for Design Engineers New to Die Casting.")

Download: [OEM Preplanning Guide](#)

Key Resources Recommended for Buyer-Specifiers New to Die Casting

• **Webinar: The Die Casting Process—An OEM Overview**

Valuable introduction for purchasing specifiers new to die casting. 10 mins. (See description under "Key Resources for Design Engineers New to Die Casting.")

Click to view [OEM Overview Webinar](#) by immediate direct link.

• **OEM Design & Specification Guide**

Provides information on additional subjects with which buyer-specifiers of die castings will want to be familiar. 16p. (See description under "Key Resources for Design Engineers New to Die Casting.")

Download: [OEM Design & Spec Guide](#)

• **NADCA Commercial Practices for Die Casting Buyers**

Comprehensive resource on accepted contractual purchasing practices for buying die casting and related services based on established industry trade customs. Prepared by the North American Die Casting Assn. 16p.

Download: [Commercial Practices](#)

• **FAQs on Purchasing Guidelines**

Answers to the most commonly asked questions by Purchasing Mgrs. regarding the buying & specifying of die cast parts from custom manufacturers of die castings; one of eight CWM website FAQ sections.

Direct link to view [Purchasing FAQs](#).

• **OEM Buyer Spec & Sourcing Aids**

Comprehensive 1-page compilation of resources for die casting buyers to aid in reviewing part specs for production and guiding optimum sourcing decisions. Listed document links require registrant log-in.

Download: [Buyer Spec/Sourcing Aids](#)

ADDITIONAL RESOURCES FOR ALL OEM DESIGNERS, ENGINEERS AND BUYERS

Available at the CWM DC² Die Cast Design Center with 1-time registration allowing log-in:

• **12 Ways to Reduce the Cost of Custom Die Cast Parts**

• **Quick Guide to Surface Finishing for Die Cast Components**

• **CWM Comprehensive Die Casting Capabilities Brochure**

CWM personnel are available to discuss your questions regarding custom die casting in general as well as specific questions related to a future project: [Email](#) or phone: 1-630-595-4424.