



Chicago White Metal Casting

High-Tech Al, Mg, & Zn Die Casting and
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CWM Contract Manufacturing: Enabling OEMs to Focus on What They Do Best

What Began as a Die Cast Enclosure is Now a Multi-Process Subassembly from CWM-CM

Outsourcing of product manufacturing and assembly operations has evolved into a new supply chain strategy adopted by many OEM managements as an avenue to increased return on invested capital.

OEM Refocus on Core Capabilities

The core capabilities that can differentiate an OEM and which offer the most value to its customers include new product development, strategic management, highly critical manufacturing operations, overall supply chain control, quality assurance, testing, and customer interaction, service and fulfillment.

Chicago White Metal Contract Manufacturing has established itself as a proven resource for its core capability: mechanical multi-process manufacturing and assembly.

An example of such a current project at CWM-CM is the work we are doing on a telecommunications fiber optic enclosure program. What began solely as a die casting project evolved into a multi-process supply chain management subassembly program upon presentation of CWM-CM's capabilities.

1. The OEM Project Requirement

This project embraces custom production of an aluminum die cast housing in four design variations, custom production of a plastic injection molded internal spool, and a custom aluminum enclosure cover. Also required are a series of gaskets and fasteners for assembly. The completed subassembly is to be placed in the customer's carton for shipping.

2. Custom Component Production & Supply Chain Management

Working with customer CAD files, the initial housing design was examined by CWM engineering for optimal die casting production in Al 380 alloy. With minor modifications for



draft and radii, agreed to by customer engineers, the housing was redesigned for die casting die construction with an interchangeable insert to produce two housing design variations with minimal post-casting machining. Each variation was modeled in-house as an FDM prototype in ABS plastic for evaluation before final die design approval. After further minor modifications, final FDM prototype models were made as guidance for the toolmaker, trim die maker, machining fixture builder, and the QA team, speeding preparation for maximum efficiency in these post-casting steps.

A second dual-design housing was introduced later in the program, for which CWM-CM performed similar steps. All cast housings receive a final protective chromate coating.

The enclosure cover met its requirements at the most economical cost as a stamped aluminum plate. CWM-CM recommended one of its preferred stamping partners for this component and supervised the design and construction of the tooling, sample approval, production, machining, and final coating.

Mold design, production and final finishing of the injection molded Lexan component is provided by the customer's current source. CWM-CM is in a position to select a best-choice plastic processor partner when required and supervise all mold design and

construction, first-piece approval, production, and finishing.

3. Procurement & Assembly Services

Moisture-barrier compression gaskets and mounting fasteners were procured by CWM-CM to specifications and completed the assembly of the four housings. To assure sealing of the housings against moisture, grooves have been die cast in place to receive the compression gaskets. Each housing receives its unfastened cover, with bagged fasteners, for either OEM integration with a master assembly, or for stocking and shipment as a replacement unit in the field.

4. Bottom-line Benefits to the OEM

OEM benefits of these services include capitalizing on CWM-CM's core capabilities for cost-efficiencies in design, custom production and assembly of mechanical components, the advantages of single source responsibility for multi-process subassemblies, and the ability to redeploy personnel, assets and total resources in the most productive areas for maximum return on investment.

For more details on CWM Contract Manufacturing, see the other sections of this site. Contact your regional CWM-CM Sales-Engineering Representative or call CWM-CM at 630-595-4424, or E-mail sales@cwm-contractmfrg.com.