In an ever-changing landscape, powder metallurgy (PM) components continue to excel across market segments. You will find PM used in the lawn and garden; off-highway; hand tools and recreation; industrial motors, controls, and hydraulics; hardware; and appliances market segments. PM is an efficient and reliable part of everyday life.

It is with great pleasure that the Metal Powder Industries Federation announces the winners of the 2020 Powder Metallurgy Design Excellence Awards Competition in the consumer goods market segment.

GRAND PRIZES

Alpha Precision Group has been awarded a Grand Prize in the Lawn & Garden/Off Highway Category for Conventional PM components for a commercial diesel exhaust flange component used for sensor placement in regulating exhaust emissions. The part combined what previously were three stand-alone components: a flange and two bosses.

A Grand Prize has been awarded to Smith Metal Products in the Hand Tools/Recreation Category for MIM components, for a jaw frame used in an archery string release device. This device retains the “fingers” that hold the bowstring securely and accurately while the shooter aims at the target. It also houses the trigger for when the archer is ready to shoot.

In the Industrial Motors/Controls & Hydraulics Category for Conventional PM components, a Grand Prize has been awarded to Catalus Corporation for a shoe used in a clutch for a refrigeration compressor. The part has been in production since 1984 and has undergone numerous iterations over the years, and can now be made net shape at an increased compaction rate.
A Grand Prize has been awarded to FMS Corporation and their customer Hansen Ag Solutions in the Hardware/Appliances Category for Conventional PM components, for a click-plate assembly used in an agricultural livestock feeder. The assembly consists of an inner and outer click plate. Both parts were challenging due to: multi-level requirements, detailed lettering inscriptions, premium density/wearability in the teeth, and a relatively complex core rod configuration for compacting the inner plate.

In the Hardware/Appliances Category for MIM components, a Grand Prize has been awarded to ARC Group Worldwide for a gearbox used in a drive system for motorized blinds. The component holds nine gears that rotate when actuated, to allow blinds to function with a remote-control device.

In the Hand Tools/Recreation Category for metal AM components, a Grand Prize has been awarded to Sandvik Additive Manufacturing for a lightweight milling cutter made for Sandvik Coromant using laser-beam, powder-bed-fusion metal AM processing. Productivity improvements of up to 200% have been achieved using the cutter.

AWARDS OF DISTINCTION

In the Lawn & Garden/Off-Highway Conventional PM components Category, an Award of Distinction has been given to Catalus Corporation for a spacer that serves as a poke-yoke locator and compression limiter where a seat belt assembly is attached to the frame in a side-by-side vehicle.

An Award of Distinction has been given to Metalpo Ind. E Com. Ltda in the Hardware/Appliances Conventional PM components Category for an upper stator used in a ceiling fan by their customer Philips do Brasil Ltda (Walita Division).

In the Hand Tools/Recreation Category for metal AM components, an Award of Distinction has been given to Sandvik Additive Manufacturing and their customer Seco Tools for a coolant clamp that attaches to the cutting edge of industrial turning heads used in machining. Coolant flows through the clamp, cooling the cutting edge and controlling the waste chips produced. AM makes it possible to form the curved holes inside the clamps that were previously impossible to form using traditional manufacturing processes.

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Note: Recipients of the awards in the Automotive and Special Technologies segments have also been released via video, and links are posted on the MPIF website: MPIF Award Winning Parts

Editor’s Note: For further details or digital photos contact Dora Schember at MPIF
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About the Metal Powder Industries Federation
Metal Powder Industries Federation is the North American trade association formed by the powder metallurgy industry to advance the interests of the metal powder producing and consuming industries and provides a single point of reference for all MPIF member companies.
2020 MPIF Design Excellence Consumer Goods Award Winners

Lawn & Garden/Off-Highway
  Grand Prize
  Exhaust Flange

Hand Tools/Recreation—MIM
  Grand Prize
  Jaw Frame

Industrial Motors/Controls & Hydraulics
  Grand Prize
  Compressor Shoes

Hardware/Appliance
  Grand Prize
  Click Plate Assembly

Hardware/Appliance—MIM
  Grand Prize
  Gearbox

Hand Tools/Recreation—AM
  Grand Prize
  Milling Cutter

Lawn & Garden/Off-Highway
  Award of Distinction
  Spacer

Hardware/Appliance
  Award of Distinction
  Upper Stator

Hand Tools/Recreation—AM
  Award of Distinction
  Coolant Clamp

digital photos available upon request dschember@mpif.org