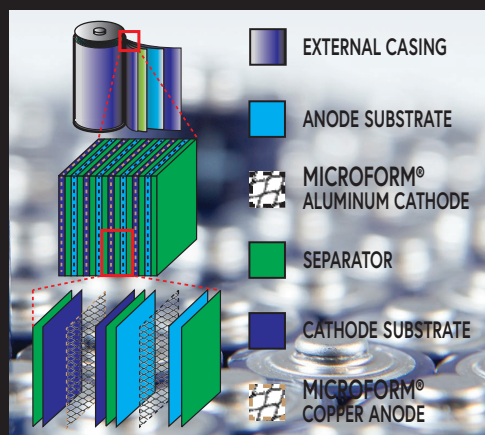


# MICROFORM<sup>®</sup>

## FOR BATTERY TECHNOLOGIES

For precision-engineered applications that require a light mesh, Wallner Expac manufactures Light Gauge MicroForm<sup>®</sup>. Versatile, economical, and environmentally friendly, it is fully customizable to meet tight specifications for use in different applications.

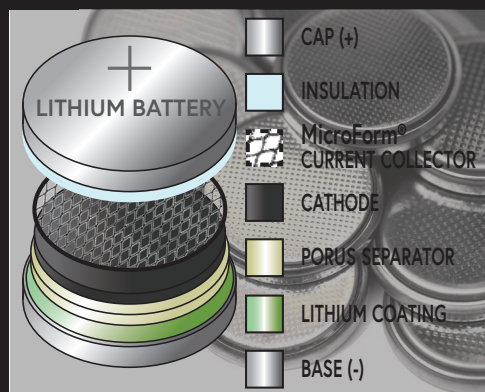


### MICROFORM<sup>®</sup> USE IN RECHARGEABLE BATTERIES

Essential for batteries to function are internal metal foils. The foils must be strong enough to support the application of substrates during the production process and adhere to strict tolerances ensuring a sustained electrical connection point for the external circuit. To provide battery manufacturers with an exceptional support layer, Wallner Expac precision engineers Light Gauge MicroForm<sup>®</sup> expanded metal.

Contrary to popular belief, it is the substrates— which are typically a paste or powder— that make up the electrically active material. These substrates are applied to a metal foil that is wound or folded to provide a continuous layer. The electrolytes are formed from these substrate layers which are applied to a current collector— such as aluminum for the cathode and copper for the anode.

### MICROFORM<sup>®</sup> USE IN NON-RECHARGEABLE BATTERIES



Light Gauge MicroForm<sup>®</sup> is specifically engineered for use as battery foils. Strong enough to support the application of substrates during the manufacturing process and extremely flexible, it can be wound or folded into a continuous layer ensuring the transmission of protons from the anode, driving the electrons via a conductive route through the substrate membrane to the cathode.

Not all meshes are created equal. Our Shear-Form<sup>®</sup> service of manufacturing MicroForm<sup>®</sup> yields more finished than raw product with a high surface area-to-volume ratio, pattern uniformity, and has no points that can separate— all crucial for strong, conductive layers for superior corrosion resistance, longer product lifecycle, and optimal performance.

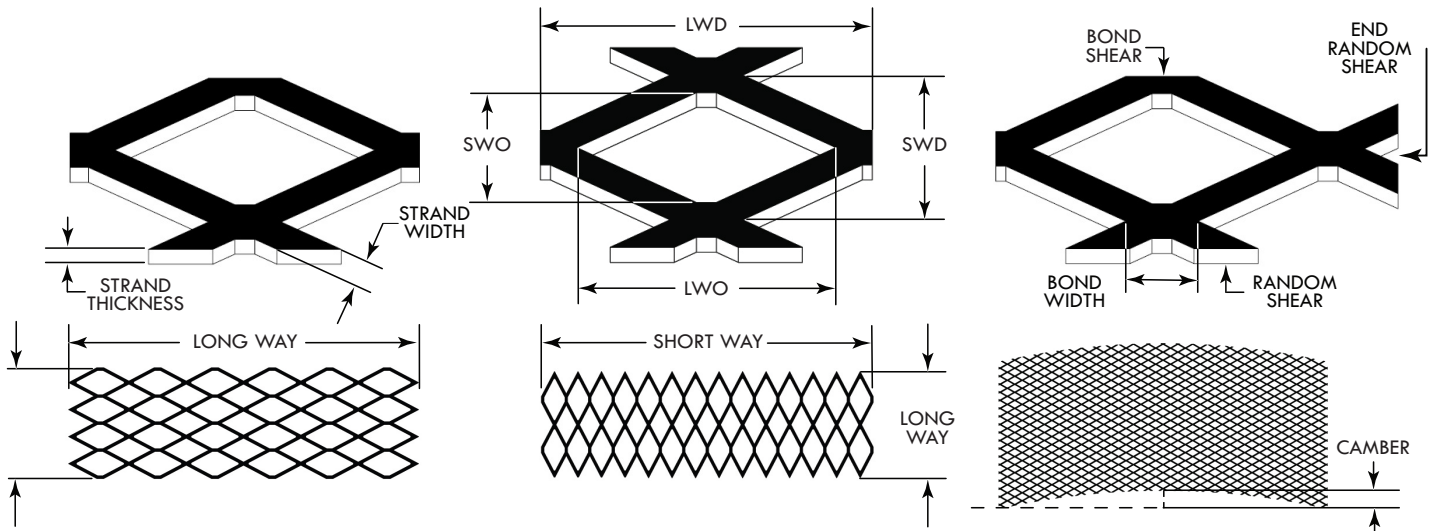
### LIGHT GAUGE MICROFORM<sup>®</sup> PARAMETERS

- ◇ Widths up to 25"
- ◇ LWD from 0.050"—0.125" (1,270  $\mu$ m-3,175  $\mu$ m)
- ◇ Minimum Raw Gauge: 0.002" (50.8  $\mu$ m)
- ◇ Metals: Aluminum, Copper, and more
- ◇ Options include slitting, flattening, and more



(909) 481-8800  
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# CAPABILITIES AND PARAMETERS



## SERVICES AND CAPABILITIES

Engineered to precise specifications in our ISO-9001 climate-controlled environment, MicroForm® is manufactured in coils or sheets and our tooling facility provides post-production services. Our scalable manufacturing lines and responsiveness allow us to rapidly create product with tunable parameters including specific weight and open area to meet demanding customer specifications.

Our state-of-the art, on-site tooling facilities support our manufacturing with post-production services including:

- ◇ Wire EDM
- ◇ Surface and OD grinding
- ◇ Precision inspection equipment
- ◇ CNC machining, lathes, radial drills
- ◇ Annealing, Stamping, Forming, Flattening,
- ◇ Slitting, Anodizing, Welding
- ◇ Engineering & Design, creation of customized patterns

## MISSION-CRITICAL BATTERY TECHNOLOGY USES FOR MICROFORM®

- ◇ Aviation– engine start-up, avionics, and auxiliary power units
- ◇ Military– infantry communications, UAVs, vessels, vehicles
- ◇ Aerospace– GEO telecommunications, GPS, Low/Middle Earth defense satellites

## ADDITIONAL USES FOR MICROFORM®

- ◇ Microfiltration
- ◇ Lightning Strike Protection
- ◇ Acoustics
- ◇ Air Bag Filters
- ◇ EMI/RFI Shielding
- ◇ Speaker Grilles
- ◇ Food Processing
- ◇ Arts & Crafts
- ◇ Screens- Windows, Doors

