



**HOWMET  
AEROSPACE**

# Thread Roll and Cold Header Tooling

## Mairoll® products Made in the USA, since 1971

Under its Mairoll® product brand, Howmet Fastening Systems offers a complete line of tooling products including flat dies, cylindrical dies, and cold header tooling, as well as thread die regrind and cut-down services.

Our extended array of manufacturing capabilities, engineering, R & D, and customized tooling solutions provides a continuous improvement and customer-focused culture. As such, we are equipped to supply efficient, cost-effective solutions, and value-added services for production tooling needs of any kind.



### Flat Dies

Our flat thread dies feature Super M-42 material, which is vacuum heat-treated and tempered for maximum toughness and durability. This helps provide the longest possible thread rolling life, resulting in reduced set-ups, fewer dies to purchase, and significant cost-savings. All dies are synchronized and center-matched to reduce variability in set-ups. We manufacture all standard, controlled major, and modified thread forms to meet customer needs.

Custom form requirements can also be met. Precise and accurate thread forms assure our customers quality parts that meet or exceed today's stringent aerospace and commercial quality standards.

Dies in unified and metric sizes are available in the following configurations:

- Boltmaker single and split face
- Controlled major forms
- Custom designs
- Fillet rolls
- Groove dies
- Knurl
- Special forms
- Standard duplex

Howmet Fastening Systems' computer-integrated manufacturing environment includes a wide variety of the latest state-of-the-art CNC creep feed grinding machines as well as CNC mills, lathes, sinker and wire EDM, and laser equipment. Skilled machinists and precision advanced-technology equipment combine to deliver:

### Superior Tooling • Personalized Service • On-Time Delivery

#### Our offerings

- Complete traceability
- Custom machining and grinding
- Extended tool life through closer tolerances
- Extensive use of CNC equipment
- Quick turnaround on custom orders
- State-of-the-art machine tools
- Stocking programs
- Technical assistance in die design

#### Manufacturing capabilities

- Thread grinding
- CNC milling and turning
- Coating
- Crush roll grinding
- Cylindrical and flat grinding
- EDM (wire and sinker)
- Forming
- Turning
- Creep feed grinding



### Cylindrical Dies

We produce the highest quality thread forms in the industry, combining thread-lead and helical precision. A wide variety of cylindrical ground products are available, including thru feed, helical infeed, crush rolls, custom forms, and cylindrical dies of all sizes. In addition, our regrinding service offers savings of up to 50% off the cost of a new die—and most dies can be reground more than once. Dies in M-42, D-2, and other materials are available.

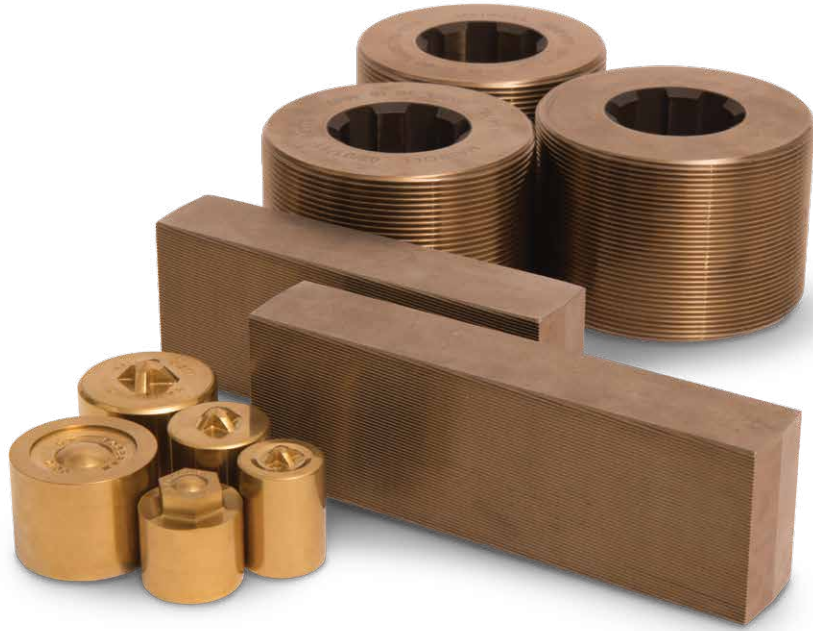


### Cold Header Tooling

Our header tooling is manufactured from a variety of materials such as M-2, M-42, and various carbide grades. Sinker and wire EDM are available. Tooling can be custom designed and manufactured to meet customer needs.

Our header tooling line includes punches, hammers, and stamps in assorted sizes and recess styles:

- Cruciform
- Cruciform-ribbed
- Offset cruciform
- Offset cruciform-ribbed
- Tri-slot



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