

# Applications & General Features

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## Prehardened Alloy Steel

MARSHALLOY MQ<sup>®</sup>, exclusively by Precision Marshall Steel, is a mold quality steel supplied in the prehardened condition. Special melting and refining practices are utilized to produce a uniform product with exceptional cleanliness. These characteristics allow MARSHALLOY MQ<sup>®</sup> to be polished to an extremely high finish required for plastic molding. The material is tested to rigorous standards to ensure uniformity of structure and exceptionally low inclusion levels. MARSHALLOY MQ<sup>®</sup> is supplied prehardened to 280/320 BHN. The balanced composition of MARSHALLOY MQ<sup>®</sup> ensures uniform cross-sectional hardness and is guaranteed to maintain the specified hardness throughout the plate.

MARSHALLOY MQ<sup>®</sup> provides superior machinability while demonstrating outstanding cleanliness and soundness. It may be successfully substituted for P20 in plastic injection molding applications. MARSHALLOY MQ<sup>®</sup> is also useful in a wide range of mechanical applications, including short run tools and dies.

**MARSHALLOY MQ<sup>®</sup>**

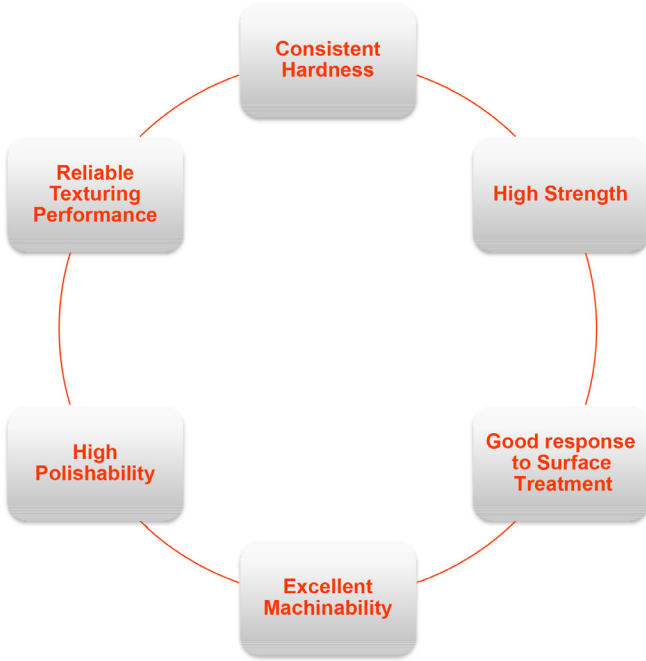
## Marshallloy MQ is a very versatile grade

APPLICATIONS	COMPARED TO 4140/4142	COMPARED TO P20
Tool Frames	<ul style="list-style-type: none"> <li>• Improved hardenability</li> <li>• Through thickness consistency even for thick pieces</li> </ul>	<ul style="list-style-type: none"> <li>• Better machinability (tooling cost, machining cost)</li> </ul>
Holder Blocks		
Mold Cavities	<ul style="list-style-type: none"> <li>• Improved machinability</li> <li>• Suitable for etching</li> <li>• Suitable for polishing (A2 finish)</li> </ul>	<ul style="list-style-type: none"> <li>• Superior cleanliness &amp; polishability</li> </ul>
Mechanical Engineering		

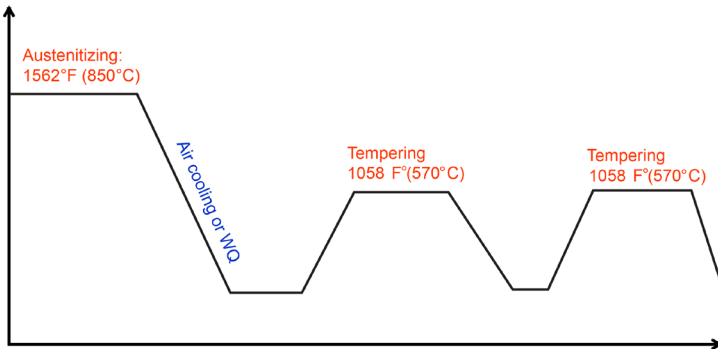
As a mold quality steel made with a proprietary melting and refining process, Marshallloy MQ<sup>®</sup> offers superior:

- ◆ Machinability
- ◆ Hardness
- ◆ Tensile Strength
- ◆ Uniformity
- ◆ Cleanliness
- ◆ Polishability

Marshallloy MQ is a versatile steel for mold cavities, holder blocks and engineering



A lean manufacturing process with key control operations (UT, flatness, hardness)



Marshallloy MQ<sup>®</sup> is made using a lean manufacturing process that controls ultra-toughness, flatness & hardness. The result is double-tempered, stress-relieved plates delivered from the mill.