



**Material: Alloy F75**

**Challenge:** A medical device manufacturer had a requirement for an implant grade component. The component was rife for metal injection molding (MIM), however, standard implant material such as titanium was too costly and not suitable for high volume manufacturability. They needed to come up with a material that was both cost effective and molding friendly.

**Solution:** F75 – a chromium-cobalt-molybdenum alloy that would meet implant grade requirements and be suitable for manufacturing via high volume metal injection molding.

**(Details):** Medical device manufacturers have been asking for MIM Ti-6% V-4% Al parts. No MIM producer is able to produce medical grade Ti-6% V-4% Al. FloMet has now developed a MIM version of another implant grade alloy, F75. Development of F75 MIM components involved modification of the MIM process including feedstock formulation, injection molding, debinding, and sintering. Testing demonstrated that F75 components meet the chemical specifications and exceed the mechanical property specifications of the ASTM standard, F75-01 Standard Specification for Cobalt-28 Chromium-6 Molybdenum Alloy Castings and Casting Alloy for Surgical Implants (UNS R30075). Further, F75 properties compare favorably with medical grade Ti-6% V-4% Al. Therefore, when the medical device manufacturer needed an implant grade alloy that could be produced via MIM at significantly lower cost, FloMet had F75 qualified for their needs.