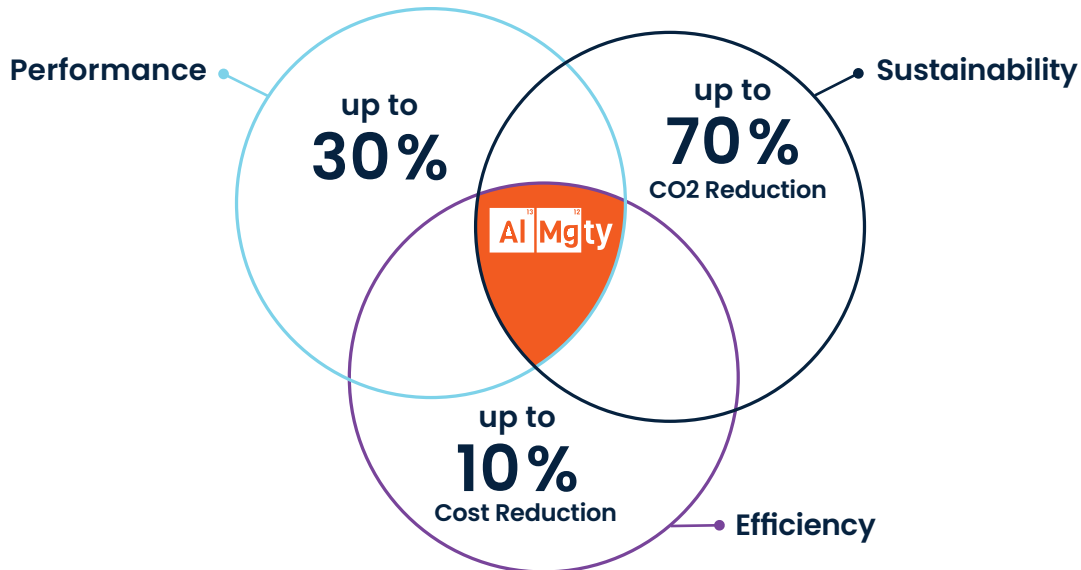


High Performance Aluminum for Casting, Extrusion and 3D Printing



Performance:

- 20 to 30% weight saving possible
- Processible in casting, extrusion and additive processes (LPBF, DED)
- No exotic/rare alloying elements
- Good ejectability in die casting
- Anodizability (colored/black)
- Highest elongation & high strength
- Corrosion resistance to seawater & caustic soda
- Material mix consolidation

Sustainability:

- Lowest carbon footprint achievable
- Aluminum made using 100% hydropower
- Corrosion resistant without additional coating
- Recycling compatible, especially after consolidated material mix
- Circular car body – can be recycled as a whole
- No exotic/rare alloying elements

Efficiency:

- >10% cost saving possible
- Leaner components & structures
- Less weight
- Less material used
- Lower production costs
- Material mix consolidation
- No corrosion coating necessary
- Lower transportation costs
- Shorter cycle time in HPDC due to shorter 3rd phase
- No heat treatment (single step, no quenching)

Mechanical Properties of AlMgty[®]

Sand Casting/PM Casting/ HPDC

Rp0,2=170-190MPa
Rm= 370-400 MPa
A= 20-25%

3D Printing

Rp0,2=170-190MPa
Rm= 370-410 MPa
A= 30-40%

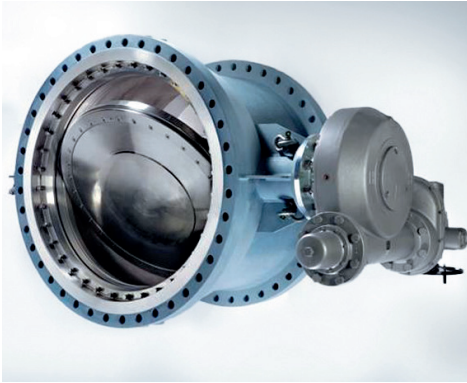
Extrusion

Rp0,2=170-190MPa
Rm= 310-380 MPa
A= 45-55%

Wire (Ø 1,6mm)

Rp0,2=452 MPa
Rm= 547 MPa
A=8,8 %

AlMgty[®] in Practice: One Material for Extrusion, Casting and 3D Printing



Closing Flaps for Valves

- Weight reduction
- Corrosion resistance
- High elongation and strength



Profile with 3D Printing and Casting

- Material mix consolidation
- Recyclability of assemblies without disassembly
- Cost reduction



Impact Absorber Mount (992.805.678)

- Up to 30% less weight
- Corrosion resistant
- High elongation and strength
- High toughness
- Weldable and rivetable

AlMgty[®] in Comparison

