



ALLOYS AVAILABLE

sand and permanent mold aluminum casting

Match your alloy to your application

PPF pours four different alloys differentiated by chemistry and application. Use the chart below to find and compare different alloys.

For more detailed information on alloy properties, please contact PPF directly to discuss your requirements.

Aluminum-Silicon-Copper based

319 - ALCAST

Benefits: Lower material costs

Applications: Housings, general shapes

Aluminum-Silicon-Magnesium based

A356

F356

Benefits: Good strength and ductility, heat treatable

Molding process: Sand and permanent mold

Applications: Structural, brackets, housings, valve bodies

Aluminum-Magnesium based

535 - ALMAG

Benefits: High tensile strength

Good corrosion resistance

Good anodizing properties

Good machinability

Good ductility

Applications: Brackets, parts needing to hold a shine

Aluminum-Zinc based

713 - TENZALLOY

Benefits: High strength, heat treatment not required thus dimensional stability

Applications: Housings, brackets



PPF
PRODUCTION
 PATTERN & FOUNDRY

	319/F	A356/T61	535/F	713/F
Alloy Properties	Aluminum-Silicon-Copper Based	Aluminum-Silicon-Magnesium Based	Aluminum-Magnesium Based	Aluminum-Zinc Bases
Tensile Strength/ Ultimate Yield	28/14 ksi*	37/26 ksi*	35/18 ksi*	32/22 ksi*
Elongation	2%	5%	8%	4%
Heat Treatable	Not required	Yes	Not required	Not required
Corrosion Resistance	3	2	1	3
Anodizing Properties	4	4	1	1
Machinability	3	3	1	1
Pressure Tightness	2	1	5	4
Polishing	4	4	1	1
Weldability	2	1	4	4
Molding Process	S&P**	S&P**	S**	S**

*Mechanical properties related to aluminum permanent mold castings. Values for sand castings are typically lower.

**S = Sand Mold, P= Permanent Mold

Key to Range:

1= Most suitable for this application; 5= Least suitable for this application