

Comparison of M-1 versus 5000 series cast plate

- 1) Size Capability: our current size restriction is 27" by 74" wide by 144.5" long our competition has the ability to provide up to 38" thick but is limited to a width of 61" and 90.5". It should be noted that Thyssen currently has blocks from 31" to 38" that are only 49" wide. I have the others dimension capabilities if you need them.
- 2) Weight density: 5000 series has a weight density of .096 and M-1 and Alcamax are .100, this makes the 5000 series 4% lighter and therefore a cost savings to our customers.
- 3) Corrosion resistance: Due to the alloying content of 5000 series it will have better corrosion resistance. Please note that in prototyping this should not be an issue unless they are using a corrosive plastic.
- 4) Polishability: They have excellent polishing capabilities.
- 5) Weldability: As we know they all weld pretty easy but 5000 series with the correct weld rod will weld a little bit easier.
- 6) Machinability: they both have excellent machinability characteristics.
- 7) Texturing and Anodizing: Both cast plate products easily accept texturing and anodizing.
- 8) Thermal Conductivity: M-1 and Alcamax both have better thermal conductivity due to alloying content, which in prototyping might not make a difference.
- 9) Thermal expansion: 5000 series is just a bit higher but it should not be noticeable since these products are more stable than rolled or forged products.
- 10) Hardness: both M-1 and Alcamax have higher hardness than 5000 series.
- 11) Tensile and Yield Strength: The strengths are relatively the same.