EPC casting pattern coated with B type coating are higher than those coated with A type coating, and the properties are also improved to some extent under the condition with a large vacuum extraction power of 30 hp. In addition, the mechanical properties are first improved and then decreased with the increase of temperature of solid solution treatment. The eutectic silicon is found to be decomposed after the solid solution treatment at a suitable temperature of 490°C. For the EPC castings, it can be observed that the hardness, tensile strength, and elongation were improved due to the reason of eutectic remelting zone in the EPC castings via OM and SEM analyses of castings with better mechanical properties. But if solid solution temperature was too high, the mechanical properties were reduced. According to the SEM observation, the Mg2Si phase having impediment effect of dislocation movement exits in the microstructure of the as-cast A356 alloy EPC castings. This phenomenon results in strengthening the A356 alloy EPC castings due to the solid solution of Mg2Si phase.
4.2.4. 抽气对伸长率之影响

4.3. 固溶温度对铸件机械性质的影響

4.3.1. 固溶温度对硬度之影响

4.3.2. 固溶温度对抗拉强度之影响

4.3.3. 固溶温度对降伏强度之影响

4.3.4. 固溶温度对伸长率之影响

5. 金相显微組織观察

5.1. 光学显微镜之观察

5.2. 扫描式电子显微镜之观察

第五章 結論

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