

Pengaruh vf sic terhadap sifat mekanik komposit aluminium a6061 sic melalui metode stir casting = Influence vf to mechanical properties of sic composite aluminium a6061 sic through stir casting method

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Abstrak

Composite Al A6061 / SiC can be made through methods Stir Casting, this method has been used widely because has middle cost and able to distribute the SiC particle well. This research use variation of SiC, from 2%, 5%, 8%, 10%, and 15%. To enhance the wettability between particle and matrix, Mg 10% was added to the molten aluminium. The result showed that the addition of 10% SiC is optimum among others, with tensile strength reach 247,8 Mpa, elongation 7,04846 % and hardness 54,333 HRB. This mechanical properties is better than the Al A6061 as cast. From datas above, it can be concluded that the more SiC being added, will improve the mechanical properties of material. However, if SiC pass the optimum value, the SiC tend to agglomerated and will deteriorate the mechanical properties of Al A6061/SiC. ;Composite Al A6061 / SiC can be made through methods Stir Casting, this method has been used widely because has middle cost and able to distribute the SiC particle well. This research use variation of SiC, from 2%, 5%, 8%, 10%, and 15%. To enhance the wettability between particle and matrix, Mg 10% was added to the molten aluminium. The result showed that the addition of 10% SiC is optimum among others, with tensile strength reach 247,8 Mpa, elongation 7,04846 % and hardness 54,333 HRB. This mechanical properties is better than the Al A6061 as cast. From datas above, it can be concluded that the more SiC being added, will improve the mechanical properties of material. However, if SiC pass the optimum value, the SiC tend to agglomerated and will deteriorate the mechanical properties of Al A6061/SiC. ;Composite Al A6061 / SiC can be made through methods Stir Casting, this method has been used widely because has middle cost and able to distribute the SiC particle well. This research use variation of SiC, from 2%, 5%, 8%, 10%, and 15%. To enhance the wettability between particle and matrix, Mg 10% was added to the molten aluminium. The result showed that the addition of 10% SiC is optimum among others, with tensile strength reach 247,8 Mpa, elongation 7,04846 % and hardness 54,333 HRB. This mechanical properties is better than the Al A6061 as cast. From datas above, it can be concluded that the more SiC being added, will improve the mechanical properties of material. However, if SiC pass the optimum value, the SiC tend to agglomerated and will deteriorate the mechanical properties of Al A6061/SiC.