

Abstract: The high entropy alloys have an increasing interest in both relating the mechanical behavior to their microstructural evolution and in their development for various applications. The first who name this category of alloys like alloys with the high entropy was Yeh in 1995. The term was accepted for the first time in 2003. High entropy alloys were defined as those alloys having at least five major metallic elements each having an atomic percentage between 5% and 35%. The compound elements in equimolar or near equimolar ratios, tend to facilitate the formation of simple solid solutions during solidification This definition implicitly includes alloys with minor elemental additions with atomic percentages even smaller than 5%. The present study is trying the analyze of the high entropy alloy FeNiCrMnAl from the microstructural and mechanical point of view.