INVESTIGATION OF RADIATION ATTENUATION PROPERTIES OF T15 HIGH SPEED STEEL

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INTRODUCTION

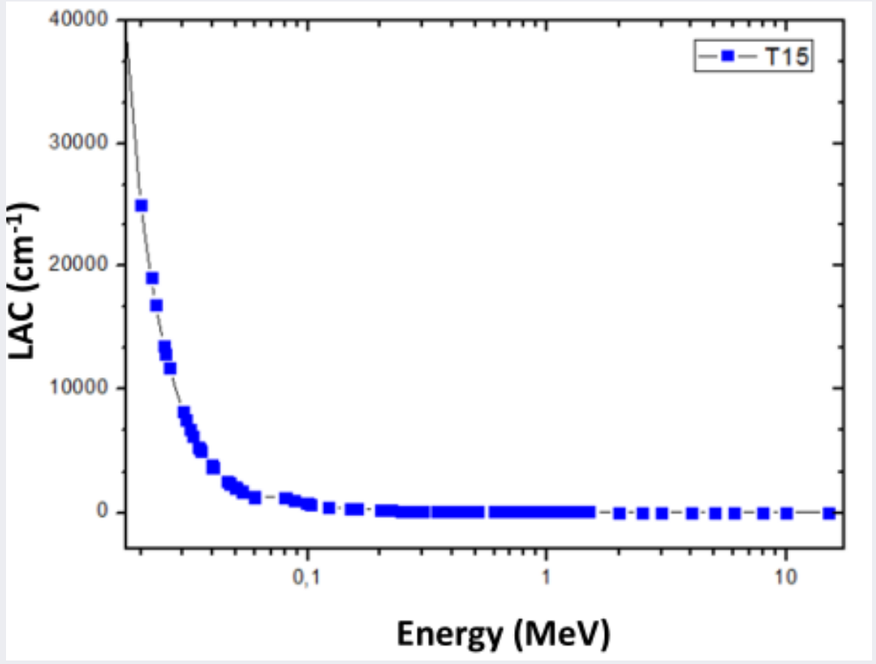
Radiation is energy emitted in the form of waves or particles. Its use has been increasing day by day in recent years. It can cause burns, carcinogenic and mutagenic effects on the skin of people exposed to radiation. For this reason, radiation shielding has become an important issue. T15 high speed steel shows high strength, wear resistance and good hardness properties because it contains chemical elements such as tungsten, vanadium, chromium and molybdenum. For this reason, radiation permeability properties were analyzed with the Phy-x/PSD program.

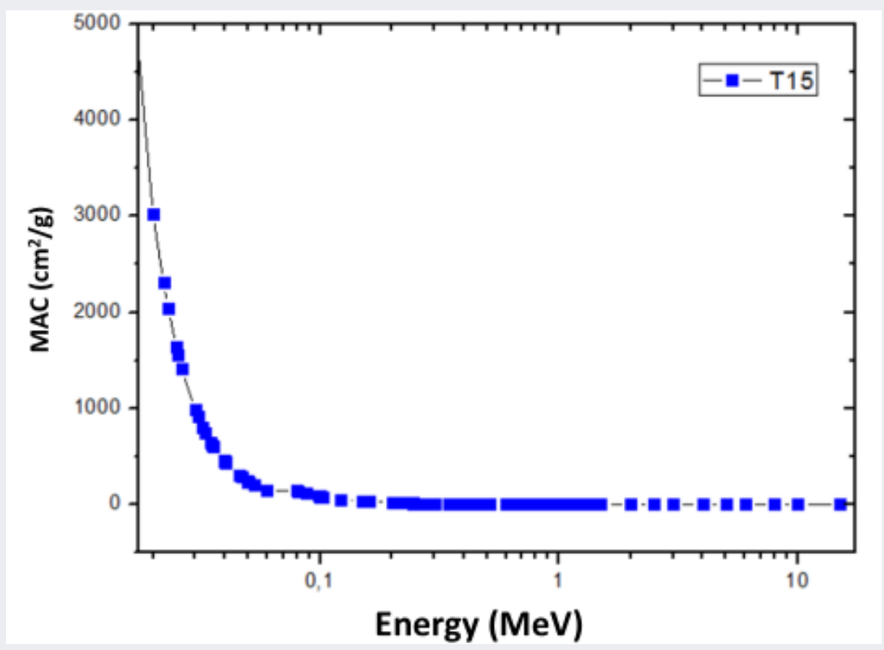
PHY-X/PSD PLATFORM

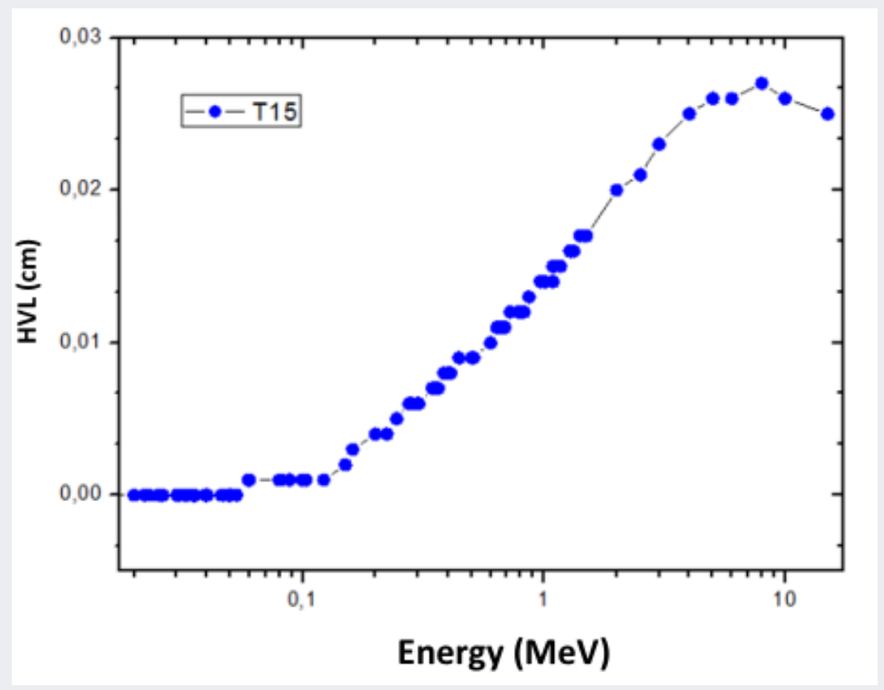
T15 High Speed Steel against gamma rays were computed using the online Phy-x software for an energy range between 0.015 MeV and 15 MeV.

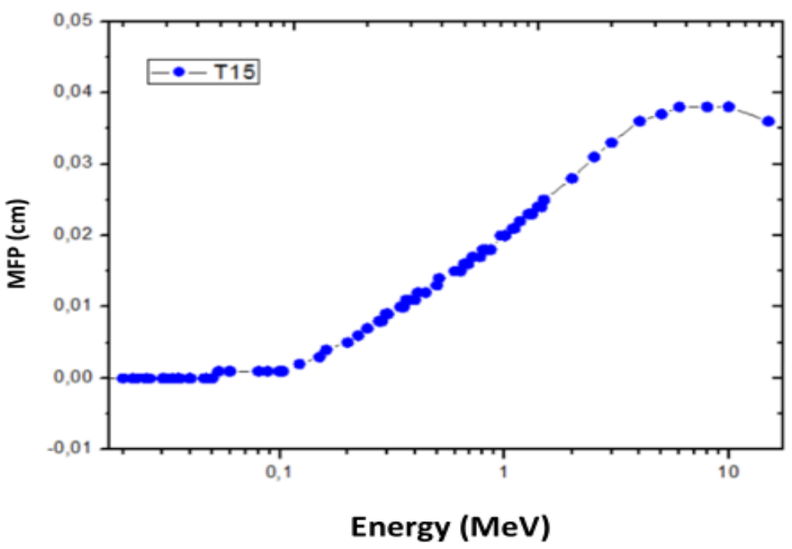
RESULT

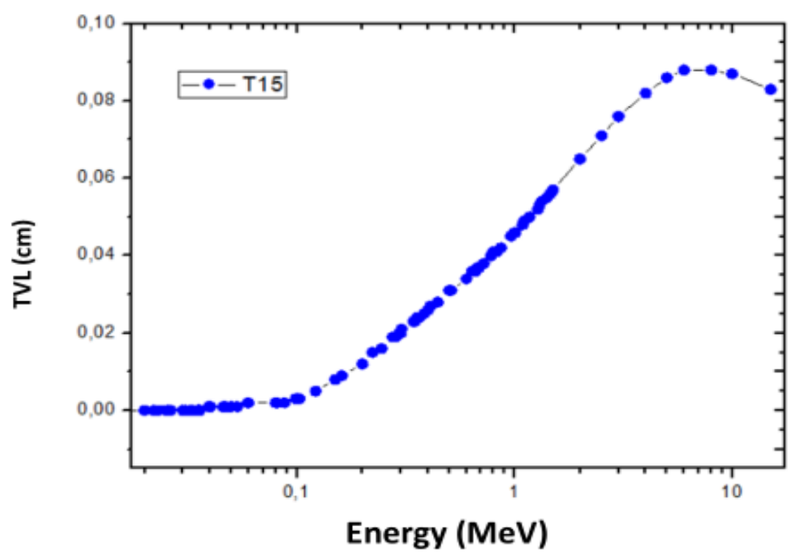
- While T15 high speed steel provides excellent gamma shielding at low energies, it is understood from the graph that the material cannot show good shielding properties in high energy photons with the increase in the distances required for successive collisions to occur at increasing energies.
- The fast neutron cross-section of the T15 material was calculated as 16,852 cm^{-1}.











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