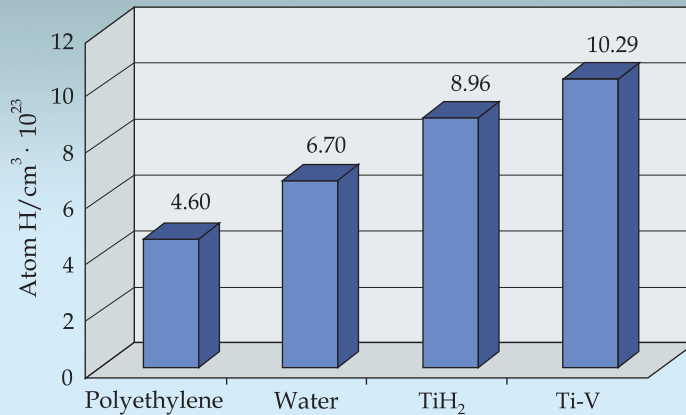


TI-V-H ALLOYS FOR NEUTRON SHIELDING



Density of hydrogen atoms in effective fast neutron moderators

Areas of Application

The alloys can be used in nuclear power engineering, in particular, as materials with a high hydrogen content, which hold much promise for neutron radiation protection as effective moderator of fast neutrons

Specification

High sorption capacity	H/Me = = 2.11 – 2.26
Initial temperature of intensive absorption, °C	~300 (for Ti – ~400)
High average hydrogenation rate, g/s	~8,4 · 10 ⁻⁶
Stability during exploitation:	
time, years	≤15
thermal, °C	≤500
Hydrogen atoms per cm ⁻³	~1.03 · 10 ²³

Advantages

The proposed alloys with enhanced protective properties have advantages over the known analogs as they enable an increase in the mass coefficient of neutron removal and efficiency of protection, a decrease in the thickness of protective layer and a reduction in the production costs

Stage of Development.

Suggestions for Commercialization

IRL3, TRL2
Vending of patent based on license agreement

IPR Protection

IPR3

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