



Fabrication of Palladium-Alloy Composite Membranes for High Temperature Applications

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Summary: Palladium-alloy membranes that exhibit structural stability, improved strength, and high hydrogen flux

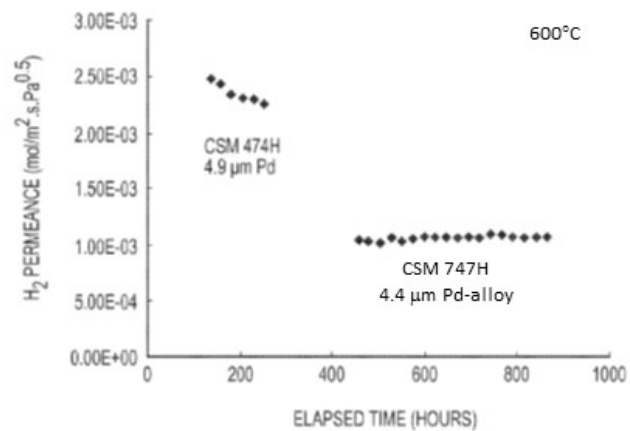
Description: The potential use of palladium (Pd) membranes for selective hydrogen permeability has been recognized for decades. Yet, Pd-alloy membranes have not been commercialized due to deficiencies in their long-term stability, high costs, and manufacturability. This invention details a method to fabricate very thin, composite membranes of Pd alloyed with Ru, Rh, and Pt that exhibit structural stability, improved strength and high hydrogen flux at temperatures up to 600°C. The membranes can be fabricated on tubular porous substrates, which can be assembled into high surface area membrane modules.

Main Advantages of this Invention

- High strength and structural stability
- High hydrogen flux

Potential Areas of Application

- Hydrocarbon reforming
- Hydrogen production
- Fuel cell
- Petrochemical refineries



ID number: 12028

Intellectual Property Status: US utility (#14/201,110) and PCT patents pending (#2014 138,637)

Opportunity: We are seeking an exclusive or non-exclusive licensee for marketing, manufacturing, and sale of this technology.

For more information contact:

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