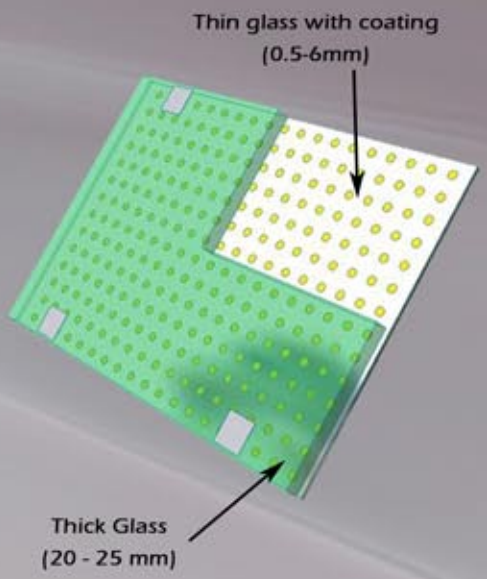
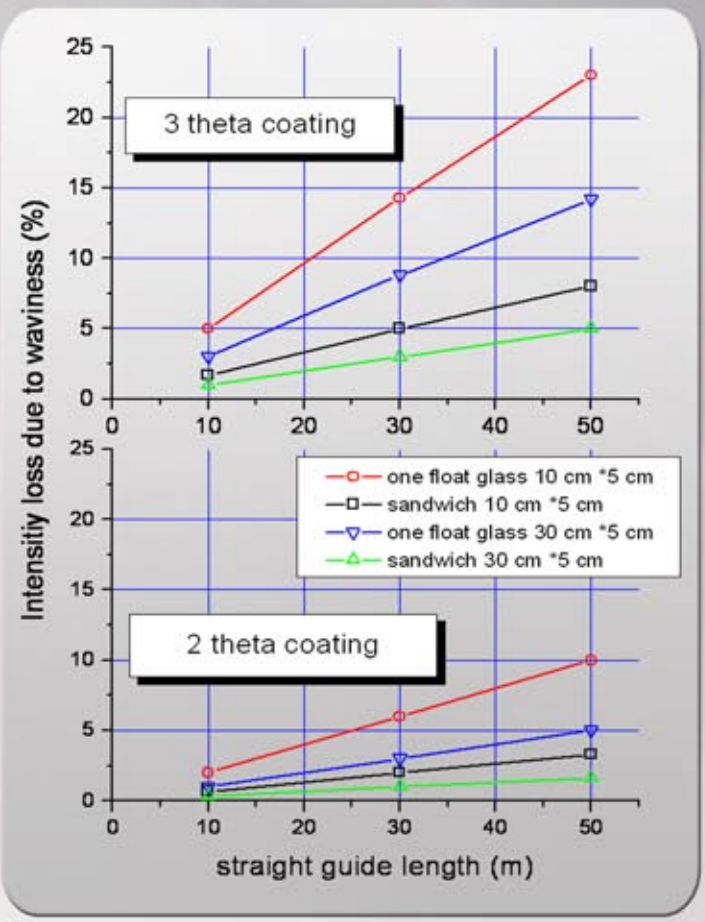
Glass - glass Sandwich Technology

Under international patent

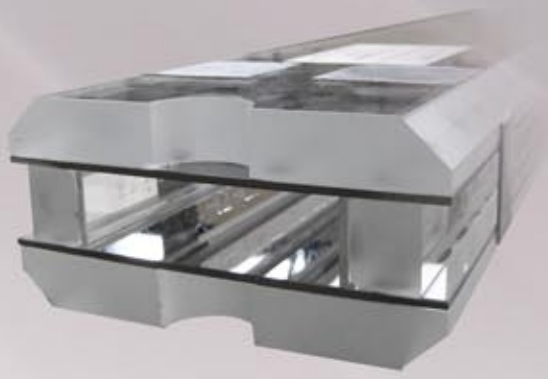
The waviness of float glasses (independently of the thickness) is about $4 \cdot 10^{-4}$rad (PTV). Waviness of the guide walls decreases the transmission of a neutron guide by 5-30% (related to an ideal flat surface), especially in long guides with small cross section.



The coated thin glass flattened on a special high-precision vacuum table, and then the flattened position fixed with a thick glass.



Calculation of the loss of neutrons due to waviness in straight guide with various length, cross sections and coating.



Advantages of the sandwich technique:

- provide better waviness (1 - $1.3 \cdot 10^{-4}$rad)
- gives stability to a thin substrate
- additional shielding

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