

Title (en)  
BIMETALLIC VALVE

Title (de)  
BIMETALLVENTIL

Title (fr)  
SOUPAPE BIMÉTALLIQUE

Publication  
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Application  
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Abstract (en)  
[origin: WO2010115540A1] The invention relates to a bimetallic valve for an internal combustion engine, comprising a valve body (3) consisting of an iron-base alloy and a sheath body (4) in the region of the valve head (1), consisting of a cobalt-base or nickel-base alloy, the thermal expansion of the valve body being considerably higher than that of the sheath body (4). The difference between the thermal expansions  $\alpha(20^\circ\text{-T})$  of the valve body (3) and the sheath body (4) is at least  $2\mu\text{m/mK}$  according to the formula  $(\alpha_{VK} - \alpha_{HK}) > 2$ . The valve body (3) and the sheath body (4) are interconnected by welding, and a residual compressive stress is produced in the sheath body at room temperature, by heating the valve body (3) and the sheath body (4), following the welding, above the yield point of the sheath body (4), with plastic deformation of same, and then subsequently cooling said bodies.

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