

METHOD FOR PRODUCING A STAINLESS STEEL DIFFUSION-BONDED PRODUCT

ABSTRACT

A process for producing a stainless steel diffusion-joined product is disclosed for the purpose of providing a stainless steel diffusion-joined product. This process includes bringing stainless steel materials into direct contact with each other and unifying the materials through diffusion joining, wherein: at least one of the stainless steel materials which are to be brought into contact with each other is a duplex stainless steel which has an austenization initiation temperature at heating, namely A_{c1} , of 650 to 950°C and an austenite/ferrite two-phase temperature region falling within a range of 880°C or higher; and the diffusion joining is made to proceed under the conditions of contact surface pressure of from 0.03MPa to 1.0MPa or less and heating temperature of 880 to 1080°C, while being accompanied with grain boundary migration occurring during the ferrite-to-austenite transformation of the duplex stainless steel.

Fig 1