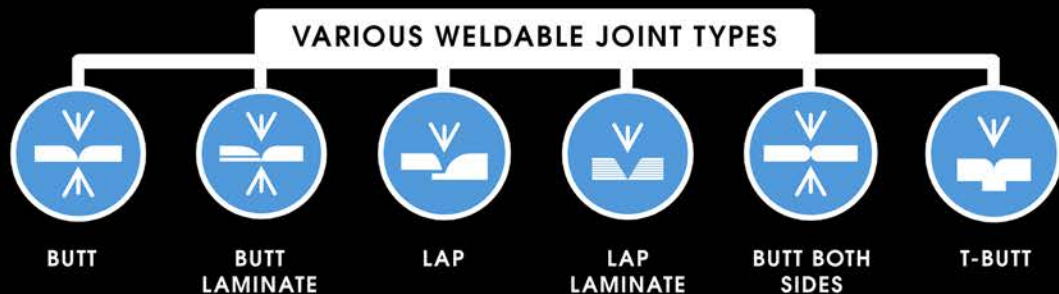


FRICION STIR WELDING

INVENTED BY WAYNE THOMAS IN 1991, FRICTION STIR WELDING COMBATS MANY DIFFICULTIES OF TRADITIONAL FUSION WELDING. UTILIZING HEAT GENERATED THROUGH THE FRICTION OF THE WELDING TOOL AND THE WORKING METAL MATERIALS, FSW SOFTENS THEM UNTIL THEY ARE JOINED.



ORIGINATING IN CAMBRIDGE, UK AT THE WELDING INSTITUTE (TWI).

A SIGNIFICANT CHANGE FROM THE STANDARD ROTARY WELDING TECHNIQUE.

THE TOOLBIT USED IS OF A NON-CONSUMABLE MATERIAL.

AS A SOLID-STATE PROCESS, FRICTION STIR WELDING ELIMINATES MANY OF THE DEFECTS ASSOCIATED WITH CONVENTIONAL FUSION WELDING SUCH AS SHRINKAGE, CRACKING, AND POROSITY.

ABILITY TO JOIN DISSIMILAR ALLOY METALS; COMBINATIONS NOT TYPICALLY COMPATIBLE WITH CONVENTIONAL WELDING.

ENVIRONMENTALLY FRIENDLY; LOW ENERGY CONSUMPTION AND MATERIALS, AS WELL AS ZERO EMISSIONS OF GASES, FUMES, ETC.