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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 857

DEFINITIONS OF WELDING PROCESSES

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BRIEF HISTORY

The ISO Recommendation R 857, *Definitions of welding processes,* was drawn up by Technical Committee ISO/TC 44, *Welding,* the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1957 and led, in 1966, to the adoption of a Draft ISO Recommendation.

In August 1966, this Draft ISO Recommendation (No. 978) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Greece	South Africa, Rep. of
Belgium	India	Spain
Brazil	Ireland	Sweden
Canada	Israel	Switzerland
Chile	Japan	Thailand
Czechoslovakia	Korea, Rep. of	Turkey
Denmark	New Zealand	U.A.R.
Finland	Norway	U.S.S.R.
France	Poland	Yugoslavia
Germany	Romania	

Two Member Bodies opposed the approval of the Draft :

United Kingdom
U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in October 1968, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 857 October 1968

DEFINITIONS OF WELDING PROCESSES

1. **Welding, Brazing and Soldering**

An operation by which two or more parts are united, by means of heat or pressure, or both, in such a way that there is continuity between these parts in the type of material joined : metals, plastics, glass, etc. A filler material, which may have any melting temperature, may or may not be used.

2. **Welding**

An operation by which two or more parts are united, by means of heat or pressure, or both, in such a way that there is continuity of the nature of the material between these parts. A filler material, the melting temperature of which is of the same order as that of the parent material, may or may not be used.

3. **Fusion welding**

Welding in which the weld is made between materials in a molten state without the application of pressure.

4. **Welding with pressure**

Welding, with or without fusion, which employs static or dynamic pressure to complete the union.

5. **Fusion welding with pressure**

Welding with fusion which employs static or dynamic pressure to complete the union.

6. **Pressure welding**
Solid phase welding

Welding which employs static or dynamic pressure to complete the union, but without fusion of the constituent parts.

7. **Brazing, Soldering and Braze welding**

An operation in which metallic parts are joined by means of a filler metal having a melting temperature lower than that of the parts to be joined and wetting the parent metal(s). The parent metal(s) does (do) not participate by fusion in making the joint.

8. **Brazing**
Hard soldering

A process of joining metals in which, during or after heating, molten metal is drawn by capillary action into the space between closely adjacent surfaces of the parts to be joined. In general the melting point of the filler metal is above 450 °C, but always below the melting temperature of the parent metal.

9. **Soldering**
Soft soldering

An operation in which metallic parts are joined by means of a filler metal having a melting temperature lower than that of the parts to be joined and in general lower than 450 °C, and wetting the parent metal(s). The parent metal(s) does (do) not participate by fusion in making the joint.

10. **Soudobrasage**
Braze welding (including bronze welding)

Brazing method in which a joint of the open type is obtained step by step, by an operating technique similar to fusion welding, with a filler metal the melting temperature of which is higher than 450 °C.