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**Plastics — Joining of thermoplastic
moulded components — Specification of
variables for thermal joining processes**

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Summary of pages

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Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 January 2018. It was prepared by Technical Committee WEE/3, *Welding of Thermoplastic Moulded Components*. A list of organizations represented on this committee can be obtained on request to its secretary.

Information about this document

This British Standard has been developed to help organizations better understand and implement controls with the following thermal joining processes through the use of thermal joining process specifications:

- ultrasonic welding/staking/spot welding;
- infrared welding;
- hot gas convection welding;
- linear vibration welding;
- orbital vibration welding;
- spin welding;
- laser welding;
- hot plate welding;
- heat staking: hot air;
- heat staking: electrical; and
- heat staking: infrared (IR).

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This British Standard specifies the minimum essential variables in order to produce a component of the required consistency and quality for the following thermal joining processes:

- ultrasonic welding/staking/spot welding;
- infrared welding;
- hot gas convection welding;
- linear vibration welding;
- orbital vibration welding;
- spin welding;
- laser welding;
- hot plate welding;
- heat staking: hot air;
- heat staking: electrical; and
- heat staking: infrared (IR).

This British Standard defines the thermal joining process specification (TJPS) for each of the thermal joining processes listed above, to ensure that all the essential variables are properly considered, including the qualified range of each variable, in order to establish and maintain component quality at an acceptable level.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN ISO 472, *Plastics — Vocabulary*

3 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in BS EN ISO 472 and the following apply.

3.1 component

joined sub-components

3.2 dimensional report

full measurement report on product before welding including flatness at weld joint

3.3 essential variable

joining condition that influences the quality of the joint and requires qualification

3.4 joining organization

organization responsible for the serial production joining and maintenance of quality