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HG/T 4280-2011

Welding procedure qualification for plastics

塑料焊接工艺评定

(English Translation)

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1 Scope

This standard specifies the terms and definitions, evaluation rules and file format of welding procedure qualification for plastics.

This standard is applicable to the welding procedure qualification for special equipment (pressure vessels and pipelines), atmospheric pressure vessels and pipelines made of plastics and plastic lining.

Note: Vessels herein refer to special pressure vessels or atmospheric pressure vessels that are all-plastic or plastic-lined; pipelines only refer to special pressure pipelines and atmospheric pressure pipelines that are all-plastic. E.g. Non-metallic pressure vessels (including liner) made of A4 plastic as special pressure vessels; thermoplastics storage tank welded in static and atmospheric pressure as atmospheric pressure vessels; all-plastic A and AX pressure pipeline components as special pressure pipelines.

The plastics applicable to this standard refer to the pipelines and plates made of thermoplastics and plastic alloys, including polyvinyl chloride (PVC, including chlorinated polyvinyl chloride PVC-C, unplasticized polyvinyl chloride PVC-U, and soft polyvinyl chloride PVC-R), polypropylene (PP, including block-copolymer polypropylene PP-B, homo-polymer polypropylene PP-H, and random-copolymer polypropylene PP-R), polyethylene (PE, including high-density polyethylene PE-HD, medium-density polyethylene PE-MD, and low-density polyethylene PE-LD), polyvinylidene fluoride (PVDF), modified

polytetrafluoroethylene (PTFE-TFM), acrylonitrile/butadiene/styrene plastics (ABS), polyamide (PA), etc.

2 Normative References

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition (including any amendments) applies.

GB/T 6111 Thermoplastics pipes for the conveyance of fluids-Resistance to internal pressure-Test method

GB/T 19806 Plastic pipes and fittings-Crushing decohesion test for polyethylene (PE) electrofusion assemblies

GB/T 19808 Plastic pipes and fittings-Peel decohesion test for polyethylene (PE) electrofusion assemblies of nominal outside diameter greater than or equal to 90 mm

GB/T 19810 Polyethylene (PE) pipes and fittings-Determination of the tensile strength and failure mode of test pieces from a butt-fused joint

HG/T 4281 Welding specification for plastics

HG/T 4282 Test method of tensile for plastics welded test specimen

HG/T 4283 Test method of bending for plastics welded test specimen

TSG D2002-2006 Regulation on welding technology for gas supply polyethylene pipe

3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

3.1 welding procedure qualification (WPQ)

the process in which verification test and evaluation are carried out on a proposed welding procedure to judge whether a welded joint is qualified in accordance with the requirements of technical standards

3.2 welding procedure test

the process of preparing and testing standard test pieces and specimens according to pWPS (3.5) for WPQ

3.3 welding procedure qualification record (PQR)

the record, in specified format, of test data and verification test results (including records of welding test pieces, examination specimen, performance determination and validation test),

and correctness evaluation of a proposed welding procedure

Note: "welding procedure qualification record" is also called "welding procedure qualification report" (WPQR).

3.4 welding procedure specification (WPS)

the documents, drafted for verification test and qualified after being evaluated, that specifies welding procedure to guide production

Note: "welding procedure specification" is also called "welding procedure instruction".