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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 19867.6-2016

Welding procedure specification for laser-arc hybrid welding

激光-电弧复合焊接工艺规程

(English Translation)

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Foreword

GB/T 19867 is divided into the following six parts.

- Part 1. Arc welding process;
- Part 2. Gas welding process;
- Part 3. Electron beam welding procedure;
- Part 4. Laser welding procedure;
- Part 5. Resistance welding procedure;

Part 6. Laser - arc composite welding procedure.

This part is Part 6 of GB/T 19867.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the re-drafting method to modify the use of ISO 15609-6.:2013 "metal materials welding process specifications and assessment of welding process Guidance specification - Part 6. Laser - arc hybrid welding.

The technical differences between this section and ISO 15609-6.:2013 are as follows.

--- on the normative reference documents, this standard has made a technical differences in the adjustment to meet the technical conditions of our country. will ISO 15609-6.:2013 cited other international standards, with our corresponding standard instead, the adjustment of the situation reflected in the Chapter 2, "normative reference documents", the specific adjustments are as follows.

Replace GB/T 3375 with non-equivalent international standard ISO/T R25901..2007;

Replace ISO 4063.:1998 with GB/T 5185 equivalent to international standard;

Replace GB 11145..2006 with GB/T 15313 with international standard modification;

Replace ISO 6947.:1990 with GB/T 16672 with equivalent international standards;

Replace ISO 15609-4.:2004 with GB/T 19867.4-2008 equivalent to international standard.

This part also makes the following editorial changes.

--- the standard name to "laser - arc composite welding process".

This part of the National Welding Standardization Technical Committee (SAC/TC55) proposed and centralized.

This part of the drafting unit. Institute of Mechanical Science and Technology Harbin Institute of Welding, Xugong Group Construction Machinery Co., Ltd. Construction Machinery Company, Guangzhou Special Pressure Equipment Testing and Research Institute.

1 Scope

This part of GB/T 19867 specifies the technical requirements for laser-arc composite welding.

This part is suitable for laser-arc composite welding method.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 3375 Welding terminology (GB/T 3375-1994, neqISO /T R25901..2007) GB/T 5185 Welding and related process method code (GB/T 5185-2005, ISO 4063.:1998, IDT) GB/T 15313 laser terminology (GB/T 15313-2008, ISO 11145.:2006, MOD) GB/T 16672 Definition of inclination and corner of weld working position (GB/T 16672-1996, ISO 6947.:1990, IDT) GB/T 19867.4-2008 Laser welding procedure (ISO 15609-4.:2004, IDT)

3 Terms and definitions

GB/T 3375, GB/T 15313 and the following terms and definitions apply to this document.

Composite welding

The use of two (or more) heat source to form the same bath for welding process, see Figure 1.

Description.

1 --- laser beam;

2 --- welding torch.

Figure 1 Laser-arc composite welding diagram

Rise slopup

At the beginning of the welding, the beam power increases moderately.