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

GB/T 40371-2021

**Gas welding equipment - Materials for equipment used in gas
welding, cutting and allied processes**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document uses the redrafting method to modify and adopt ISO 9539.2010 "Materials for Gas Welding Equipment Welding, Cutting and Related Process Equipment".

This document incorporates the amendments to ISO 9539.2010/Amd.1.2013, and the clauses involved in these amendments have been adopted.

The vertical double line (||) of the side margin position is marked.

Compared with ISO 9539.2010, this document has many adjustments in structure. Appendix A lists this document and ISO 9539.2010.

Compared with the chapter number change comparison table.

Compared with ISO 9539.2010, this document has technical differences.

The set vertical single line (?) is marked, and Appendix B gives a list of the corresponding technical differences and their reasons.

This document has also made the following editorial changes.

---Informative Appendix A and Appendix B have been added;

---The content of unit conversion is added, and the gas pressure unit is converted to MPa.

This standard was proposed and managed by the National Welding Standardization Technical Committee (SAC/TC55).

Drafting organizations of this document. Qingdao Guosheng Welding and Cutting Equipment Co., Ltd., Xiamen Kunjin Electronic Technology Co., Ltd., Qingdao Zhendeheng Welding and Cutting Tools

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1 Scope

This document specifies the general requirements and special requirements for materials used in manufacturing welding, cutting, heating and other related process equipment.

If other requirements for materials are specified in some equipment standards, they shall be implemented.

This document does not apply to rubber hoses for gas welding equipment.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations

Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

This document.

GB/T 1690 Liquid resistance test method for vulcanized rubber or thermoplastic rubber (GB/T 1690-2010, ISO 1817.2005, MOD)

GB/T 14274 High polymer porous elastic material accelerated aging test (GB/T 14274-2003, ISO 2440.1997, IDT)

ISO 11114-3. Compatibility of gas cylinders and valve bodies with contained gases Part 3. Spontaneous combustion of non-metallic materials in oxygen environment

Test (Gas cylinders-Compatibility of cylinder and valve materials with gas contents-Part 3. Autogenous ignition test for non-metallic materials in oxygen atmosphere)

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4 General requirements

Under the specified operating conditions, the materials (including metallic materials and non-metallic materials) in contact with various process gases should have corresponding resistance.

Chemical properties, mechanical properties and heat resistance.

In the temperature range of -20 degrees C~60 degrees C, the performance of the material should be stable and should be able to meet the design function requirements of the equipment.

For the interconnection of different types of materials, the contact area should take anti-corrosion measures.

5.1.1 Equipment using acetylene

The material in the contact part of the equipment with acetylene (and the gas with similar chemical properties to acetylene), the content of copper in its composition (mass fraction)

Number) should not exceed 70%, so as to avoid the formation of acetylene compounds and cause explosion hazards. Except for the nozzle and the outer surface of the neck tube of the welding torch, the material should not be used.

Use surface copper plating process (or other similar process that enriches copper on the surface of the material).