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**Comprehensive utilization of vanadium titanium magnetite -
Terms and definitions**

钒钛磁铁矿综合利用 术语和定义

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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 for Standardization Documents" drafting: Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed by China Iron and Steel Industry Association: This document is under the jurisdiction of the National Standardization Technical Committee for Comprehensive Utilization of Vanadium-Titanium Magnetite (SAC/TC579): This document is drafted by: HBIS Chengde Branch, HBIS Chengde Vanadium and Titanium New Materials Co., Ltd., Panxi Vanadium and Titanium Inspection Testing Institute, Pangang Group Co., Ltd., Chongqing University, Chengde Jianlong Special Steel Co., Ltd: The main drafters of this document: Geng Litang, Zhang Zhenquan, Chen Shujun, Wang Baohua, Hu Zhiwei, Zhang Wei, Chang Fuzeng, Wang Qi, Yang Bo, Feng Guosheng, Zhang Junfen, Li Lanjie, Rao Family, Lu Mingliang, Zhong Li, Chen Mao, Lu Xuwei, Zhang Mingbo, Zhu Yi, Qi Jian, Lu Ruifang, Li Kaihua, Lu Xueming, Luo Guiyu, Zhang Xueli, Wang Jianxin, Zhao Dan, Sun Hao, Sun Yuesheng, Zhu Fuxing, Yang Guiyan: Terms and definitions for comprehensive utilization of vanadium-titanium magnetite

1 Scope

China's national terminology for the comprehensive utilization of vanadium titanium magnetite. The ore is the reason the standard exists: the deposits at Panzhihua in Sichuan and in Chengde are among the largest of their kind in the world, and they contain iron, vanadium and titanium together in a form that no conventional process separates cleanly. Comprehensive utilization is the term for extracting all three rather than treating two as waste, and China developed the route for it - smelting in the blast furnace to recover the iron and concentrate the vanadium in the hot metal, blowing the vanadium out into a slag from which it is recovered, and treating the titanium-bearing slag separately. It is a distinctive metallurgy with its own vocabulary, and China supplies a large share of the world's vanadium from it, which is why the terms need fixing in a national standard.

This document defines the basic terms and definitions in the field of comprehensive

utilization of vanadium-titanium magnetite, metallurgical smelting process, metallurgical process products and metallurgical process: The terms and definitions of the main technical and economic indicators of the process: This document is applicable to the terminology and terms of the processes, products and main technical and economic indicators involved in the metallurgical process of comprehensive utilization of vanadium-titanium magnetite definition:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document:

GB/T 2524 Titanium Sponge YB/T 008 Vanadium slag

3 Basic terms

1 Magnetic ore mainly composed of iron, titanium and vanadium elements, symbiotic or associated with chromium, cobalt, nickel, gallium, scandium, sulfur and other valuable elements: 3:

2 Use advanced and reasonable processes and technologies such as environmental protection, energy saving and low carbon to separate and extract useful or valuable components in vanadium-titanium magnetite (3:1) It is an economic and technical activity to recycle and harmlessly produce waste residue, waste water (liquid), waste gas, etc: 3:

3 Process technology for separating and extracting useful components or valuable elements in vanadium-titanium magnetite (3:1):

Note: Vanadium titanomagnetite metallurgy is usually divided into vanadium titanomagnetite pyrometallurgy (3:4) and vanadium titanomagnetite hydrometallurgy (3:5): 3:

4 Raw materials such as vanadium-titanium iron ore concentrate undergo a series of physical and chemical reaction processes under high temperature conditions to make the metals and gangue or other impurities in the raw materials A metallurgical method for separating and obtaining rich vanadium-titanium molten iron or compounds: 3:

5 Immerse raw materials such as vanadium-titanium iron ore concentrate in aqueous solution or other liquid phases, and undergo a series of physical and chemical reaction processes to make the metals and compounds in the raw materials It is a metallurgical method in which the substance is transferred into the liquid phase and separated and enriched to obtain a metal or compound:

Note: It generally includes one or several combined processes such as leaching, liquid-solid

separation, and liquid purification:

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