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JJG

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

JJG 678-2007

Replacing JJG 678-1996

**Verification Regulation of Catalysis Combustion Type Methane
Measuring Device
(English Translation)**

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Catalytic combustion of methane detector test procedures	

1 Scope

The order applies to mines with catalytic combustion of methane detector (hereinafter referred to as equipment) initial verification, subsequent verification and in-service inspection.

2 Overview

Instrument carrier thermal catalytic combustion principle, by a carrier catalytic element constituting the measuring bridge, when the instrument environment the presence of methane gas due to methane in the catalytic element surface flameless combustion, catalytic carrier resistance detection element Value changes, the bridge imbalance signal to produce an output signal magnitude and linearly proportional to the methane content in order to achieve Methane content detection and alarm.

Catalytic combustion of methane detector has two types of portable and fixed, stationary methane detector, also known as methane Biography Sensors. For measuring methane content in mine and alarm, when the methane concentration reaches the alarm set point, the instrument emits sound, Light alarm signal.

3 metering performance requirements

3.1 Indication error Indication error expressed in absolute error. Instrument under specified operating conditions, the differential value of the maximum value and the standard should not be Than specified in Table 1.

Table 1 shows the error

Measurement range /% CH₄ 0 ~ 4 Break /% CH₄ 0≤X≤1 1 \u003cX≤2 2\u003cX≤4
the maximum permissible error /% CH₄ ± 0.10 ± 0.20 ± 0.30

3.2 Alarm error

Instrument alarm differential value and alarm set value should not exceed ± 0.10% CH₄.

3.3 Response Time

Diffusion sampling instrument shall not exceed 20s, inhaled sampling instruments should not exceed 10s.

3.4 Drift

Instrument drift includes zero drift and span drift. Zero drift should not exceed ± 0.10% CH₄, span drift shall not exceed ± 0.20% CH₄.

3.5 alarm sound level and signal strength the portable instrument alarm sound level intensity should not be less than 75dB (A), fixed instrument alarm sound level intensity should not be less than 80dB (A). Alarm signal light in a dark environment at 20m should be clearly visible.

3.6 load characteristics