

## Standards

1. A question that is often asked is "What standard do you calibrate gas monitors to?" and is often followed with "How often do I need to calibrate my gas monitor?"
2. The answer to the first question is based on the application the gas monitor is used for:
  - 2.1. For underground coalmines (Group I) the standard used to determine calibration and maintenance frequency is:

**AS 2290.3-1990** – Electrical equipment for coalmines – Maintenance and overhaul Part 3: Maintenance of gas detecting and monitoring equipment.

    - 2.1.1. Calibration is conducted in accordance with **ISO/IEC 17025** under the field of "Chemical Testing" (Annex H). This is what we refer to as a "NATA Calibration" and is bound by strict conditions contained in our Scope of Accreditation for ISO/IEC 17025 – this scope is available on the Intranet, or on the NATA website: <http://www.nata.com.au/nata/scopeinfo/?key=15109>
    - 2.1.2. Major repairs and overhaul are carried out in accordance with **AS/NZS 3800:2012**. Depending on customer and state requirements, this work may be performed under our NATA accreditation for Inspection to ISO/IEC 17020 and our status as a Recognized Service Facility under the ANZEx scheme. These accredited activities are also bound by strict conditions contained in our scope of accreditation for ISO/IEC 17020 which is also available on the intranet or on the NATA website: <http://www.nata.com.au/nata/scopeinfo/?key=20047>
  - 2.2. For other applications (Group II – including open-cut coalmines) the appropriate standard is:

**AS/NZS 60079.29.2-2008** – Explosive atmospheres: Gas detectors – Selection, installation, use and maintenance of detectors for flammable gases and oxygen

    - 2.2.1. Calibration and maintenance is performed in accordance with this standard, the manufacturer's instructions and, when required and where applicable, in accordance with the standards pertinent to work completed as part of our NATA accredited activities.
    - 2.2.2. Major repairs and overhaul are carried out in accordance with **AS/NZS 3800:2012**. Depending on customer and state requirements, this work may be performed under our NATA accreditation for Inspection to **ISO/IEC 17020** and our status as a Recognized Service Facility under the ANZEx scheme. These accredited activities are also bound by strict conditions contained in our scope of accreditation for **ISO/IEC 17020** which is also available on the intranet or on the NATA website: <http://www.nata.com.au/nata/scopeinfo/?key=20047>

## Calibration Intervals

### Underground Coalmines (Group I)

3. **AS 2290.3-1990** states:

**2.2.1.3 Examination by accredited test authority.**

FREQUENCY: Every six months.

RESPONSIBILITY: Accredited test authority.

LOCATION: Unspecified.

EXAMINATION: The accredited test authority shall conduct a calibration of the equipment over its full operating range, in accordance with that authority's terms of registration. The authority shall also verify the operation of all equipment functions, with particular reference to alarm activation and battery condition indication."

4. Air-Met is a NATA accredited test authority and offers accredited calibrations to meet this requirement. The scope of this accreditation is available on the Air-Met intranet and from the NATA website:  
<http://www.nata.com.au/nata/scopeinfo/?key=15109>

*It should also be noted that, with regard to the Standards, mines are not compelled to adhere to these under mining legislation; however, they would be well advised to consider the content, of these standards, with regard to meeting Duty of Care obligations under the WHS Act.*

### Open-Cut Coalmines and Other Industries (Group II)

5. **AS/NZS 60079.29.2-2008** states:

**11.1:** "Regarding calibration, gas detection apparatus should be:

2) Calibrated in accordance with the manufacturer's instructions, using the recommended test kit/equipment.

**11.2.2, B), (ii):** "In the case of a re-calibration, this should be done on a planned regular basis and also if a field check [bump-test] is outside the permitted limits."

"The time intervals at which these procedures should be carried out will depend upon many factors including: the nature of the apparatus, i.e. whether portable, transportable or fixed; the detection technique employed; the prevailing environmental conditions at the installation; the previous history of performance; and reliability in the application concerned."

6. What this means is that the end-user should follow the manufacturer's recommendations and instructions, with respect to gas detector maintenance but, they are also able to determine their own calibration interval based on data they have obtained over a period of operating the equipment e.g. a CO<sub>2</sub> IR sensor that has had 3 or 4 consecutive 6 monthly calibrations, with no adjustment necessary, may be determined to only require subsequent calibration at a 12 monthly interval.
7. If a customer does not have their own calibration regimen then Air-Met **recommends** a 6 monthly calibration interval - for all gas detectors - based on the maximum period between successive checks / calibrations as detailed in Annex H: Calibration of gas analysers, of the Chemical Testing ISO/IEC 17025 Application Document; to which Air-Met is accredited by NATA.