



# **Specific Accreditation Criteria**

## **ISO/IEC 17025 Application Document Manufactured Goods - Annex**

### **Testing of rubber and plastic products**

**July 2018**

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## Testing of rubber and plastic products

This document provides interpretative criteria and recommendations for the application of ISO/IEC 17025 for both applicant and accredited facilities testing rubber and plastic products.

Applicant and accredited facilities must comply with all relevant documents in the NATA Accreditation Criteria (NAC) package for Manufactured Goods (refer to NATA Procedures for Accreditation).

The clause numbers in this document follow those of ISO/IEC 17025 but since not all clauses require interpretation the numbering may not be consecutive.

### 6 Resource requirements

#### 6.4 Equipment

##### 6.4.7 & 6.4.10

##### Common equipment performance checks

Facilities must ensure that where methods writing bodies have included equipment calibration and checking intervals in standard methods that these intervals must be followed.

Facilities should refer to NATA's *General Accreditation Guidance: General Equipment - Calibration and Checks, General Equipment Table* for further information.

The following supplementary information pertains to equipment items having specific application to testing of rubber and plastic products.

Item of equipment	Calibration interval (years)	Checking interval (months)	Procedures and references
<b>Cutting dies</b>			Depends on standard. Some require the specimen to be measured, others specify die dimensions.
	Initial		Full dimensional check whenever sharpened (where die dimensions are specified).
		Frequent	Check for damage.

<b>Differential scanning calorimeter</b>	6 months		Temperature calibration using high purity indium and tin standards. ISO 11357-6 reference metals. The melting points specified for these materials must be accompanied by evidence of measurement traceability to national or international temperature measurement standards.
<b>Hardness testers</b>			
Deadweight for rubber	3		
Deadweight for plastics	3		
Durometers for rubber	1		Dimensional calibration.
		6	Against rubber hardness test blocks. AS 1683.15.2
<b>Impact testing machines</b>			
Charpy and Izod impact testers	1 (partial)		AS 1146.3
	5 (complete)		
<b>Melt flow index</b>	5		Calibrate masses.
	5		Dimensions of plunger etc.
	1		Orifice dimensions.
		6	Use a known secondary standard to check for any time dependent changes.
<b>Rubber hardness test blocks</b>	*2		Against a dead load IRHD hardness tester.
		6	Store lightly dusted with talc, in a covered wooden container away from light, heat, oil and grease.
<b>Thickness gauges (for compressible materials)</b>	2		Dial gauge, dimensions and pressure of foot

<b>Weatherometer</b>	Initial		Verify all variable parameters against setting (e.g. temperature, humidity).
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**Note:** \* Commonly conducted by laboratory staff.

## **7 Process requirements**

### **7.8 Reporting of results**

#### **7.8.1 General**

**7.8.1.2** Where it is not clear that the ventilation rate requirement of the method for accelerated air ageing of rubber is satisfied, reports must either:

- note the variation from the required ventilation rate; or
- note that the ventilation rate is not known.

Where weatherometers are equipped with spray nozzles which are not fully compliant with ASTM G155, facilities must identify the model used on test reports.

## References

This section lists publications referenced in this document. The year of publication is not included as it is expected that only current versions of the references shall be used.

### Standards

AS 1146.3	Methods for impact tests on plastics - Calibration of the testing machine
AS 1683.15.2	Methods of test for elastomers - Durometer hardness
AS 2853	Enclosures - Temperature-controlled - Performance testing and grading
ASTM G155 - 05a	Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials
ISO 11357-6	Plastics - Differential scanning calorimetry (DSC) - Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories

### NATA publications

NATA Accreditation Criteria (NAC) package for Manufactured Goods

General Accreditation Guidance                      General Equipment - Calibration and Checks, General Equipment Table

## Amendment Table

The table below provides a summary of changes made to the document with this issue.

Section or Clause	Amendment
Whole document	Clauses numbers have been introduced to align text with ISO/IEC 17025:2017.  No new interpretative criteria or recommendations have been included other than editorial changes.