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STANDARDS AUSTRALIA

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to AS 2337.1-1989

Australian Standard®

**Ruling to Gas cylinder test
stations—General requirements,
inspection and tests—
Gas cylinders—AS 2337.1—1989**

STANDARDS AUSTRALIA



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INTRODUCTION

This Ruling was prepared by the Standards Australia Committee ME/2 on Gas Cylinders and Committee P/2 on Gas Cylinder Test Station Approvals. It was approved on behalf of the Council of Standards Australia in August 1994 and published in August 1994.

STANDARDS AUSTRALIA

Ruling to Gas cylinder test stations—General requirements, inspection and tests—Gas cylinders—AS 2337.1—1989

RULING: ME/2, P/2

Subject: Acceptable cracks in a defined type of aluminium scuba cylinder.

Date issued: June 1994

Relevant Standards: AS 2337.1, Gas cylinder test stations

Part 1: General requirements, inspections and tests—Gas cylinders
AS 1777, Aluminium cylinders for compressed gases—Seamless
0.1 kg to 130 kg

Enquiry: Is it possible, in Australia, to allow cracks up to 4 mm long in the shoulder and neck areas of a defined type of aluminium compressed gas cylinder, the defined type being—

- (a) CIG-manufactured, unwrapped, aluminium 'SCUBA' cylinders complying with AS 1777—1975, using 'alloy' 6351 and made prior to 1988; and
- (b) those which have 117, 175 and 185 mm nominal outside diameters and with parallel neck threads?

Reply: Both Committees, ME/2—Gas Cylinders, and P/2—Gas Cylinder Test Station Approvals, have considered the enquiry, together with a comprehensive review of the fracture mechanics assessment, including special tests and a risk assessment report of the situation.

These Committees have determined that, providing the following inspection procedures are adopted by the approved gas cylinder test stations in Australia, two cracks, each one no more than 4 mm long, are acceptable in the cylinder defined in Items (a) and (b) of the Enquiry.

A crack in any other type of aluminium cylinder is not acceptable and shall be condemned (see AS 2337.1).

Procedure

The following actions are designed to assist approved gas cylinder test stations evaluate 'SCUBA' cylinder neck and shoulder areas:

- 1 For optimum view of threads and inner crown surfaces beneath the threads, the cylinder should be placed on a rotating base.
- 2 While slowly rotating the cylinder through a full 360°, examine the area around the base area of the thread using a light source and dental mirror, as in Figure 1.
- 3 The surface will appear rough with both valleys and folds (see Figure 2). Particular attention should be paid to examining the folds, as cracks tend to emanate from these, sometimes extending into the thread area (see Figure 3).
- 4 Should cleaning be necessary, either 'Transgleam' or 'Basal 88' is to be used.