



Test method T915

Preparation of metal samples for
microscopic examination at low
magnification (macro-examination)

NOVEMBER 2012



Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D. Dash	Jun 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T915 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T915

Preparation of metal samples for microscopic examination at low magnification (macro-examination)

1. Scope

This test method sets out the procedure for preparing metal sections for examination at low magnification (macro-examination).

2. Equipment

- (a) Buehler abrasive cut off machine.
- (b) Polishing wheels.
- (c) SiC abrasive papers, grades 180-600
- (d) 5% Nital (5% Nitric acid in alcohol)

3. Procedure

- (a) Section the metal sample on the cut off machine in such a way that the surface to be examined is exposed.
- (b) Polish the sample using the 180 grade abrasive paper until all scratches run the same direction for approximately 5 minutes.
- (c) Repeat Step (b) on 240,320s,400 and 600 grade papers, polishing each sample at 90° to previous paper's direction. Rinse the sample with water when changing to the finer grade abrasive paper.
- (d) When polishing on the 600 grade paper is complete rinse the sample in metholated spirits and dry.
- (e) Etch the polished surface of the sample by swabbing the surface with cotton wool soaked in 5% Nital until the metallurgic structure is revealed.

The sample is now ready for macro-examination.