



Test method T916

Preparation of metal samples for
microscopic examination at high
magnification (micro-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 T916 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T916

Preparation of metal samples for microscopic examination at high magnification (micro-examination)

1. Scope

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

2. Equipment

- (a) Buehler abrasive cut off machine
- (b) Buehler Simpliment mounting press
- (c) Polishing wheels
- (d) SiC abrasive papers, grades 180-600.
- (e) Diamond impregnated polishing cloths.

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) Mount the specimen in plastic using the Buehler Mounting Press.
- (c) Polish the specimen using the 180 grade polishing wheel until all the scratches run the same direction. The wheels are to be on the lowest speed setting with a steady water supply for lubrication and cooling.
- (d) Repeat step (c) on 240, 320, 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.
- (e) When polishing on the 600 grade paper is complete, rinse sample in metholated spirits and dry.
- (f) Polish specimen on the wheel impregnated with 6 micron diamond paste until scratches from 600 paper have been removed. Rinse the specimen with metholated spirits and dry. Repeat the procedure using diamond wheel impregnated with 1 micron diamond paste.

The sample is now ready for examination under the microscope.