

Preparation of Reference Specimens for Sound, Marginal and Unsound Stone

1. Scope

The test sets out the method for preparing reference specimens that represent each of the visually distinguishable rock types present in a quarried source for use in RC 372.01.

The reference materials are sampled on the basis of differences in colour, grain size, texture and grade of weathering, i.e. general appearance. Normally a set of reference specimens is prepared when a source is first sampled. Thereafter, additional reference specimens are prepared whenever previously unsampled materials are encountered in subsequent sampling. Reference specimens are not generally prepared for material that is obviously soft, friable or composed of clay.

Note: The test follows the principles of AS 1141.30.2. However the application specifications require a separate stand-alone method.

2. Procedure

Source rock investigations shall be carried out in accordance with VicRoads Code of Practice (CoP) RC 500.00 - *Source Rock Investigations*.

The durability properties of the rock shall be determined as outlined in Clauses 2.1 (a) through (c) of this method.

2.1. Rock Properties

(a) For Basic Igneous Rocks:

1. Determine the Accelerated Soundness Index in accordance with AS 1141.29.
2. Determine the Secondary Mineral Content in accordance with AS 1141.26.

(b) For other Igneous and Metamorphic Rocks:

Determine the Degradation Factor of the source rock in accordance with AS 1141.25.1 and report the value to the nearest whole number.

Note: Refer to VicRoads CoP RC 500.00 to determine whether a rock source should be classified as metamorphic.

(c) For Sedimentary Rocks:

Determine the Ball Mill Value in accordance with AS 1141.28.

2.2. Preparation of Reference Specimens

For each rock source :

- (a) Using the results obtained in Step 2.1, classify the material for durability as either "sound", "marginal" or "unsound", in accordance with VicRoads Standard Specification Section 801 - *Source Rock for the Production of Crushed Rock and Aggregates*.
- (b) Thoroughly wash and air-dry the material retained for the reference specimen.
- (c) Retain sufficient 10 mm material from the same sample for the preparation of a reference specimen for each durability classification.

Note: In some instances there may be only a minor quantity of particles for a particular deposit and material type, which may not fill the reference jar.

- (d) Inspect the particles in each reference specimen for homogeneity. It is important that all particles be visually similar in a reference specimen. In case of contamination, the reference specimen sample shall be discarded and a new sample obtained and tested.
- (e) Place in a suitable jar a sufficient number of 10 mm nominal size particles for reference specimen material.

Note: A wide-neck screw-type clear plastic jar has been found suitable for this purpose.

- (f) Label the reference specimen jar with an identification label and a classification label that complies with VicRoads CoP RC 500.00, Table 5. The identification label shall include rock source, type, sample location, name of the organisation who prepared the sample, date of sampling and a unique sample reference number.
- (g) Prepare as many jars of the particular material type as are required for the number of reference sets.
- (h) Repeat Steps 2.2(a) to (g) for each bulk sample representing the other classification types for the rock source.

Note: Reference specimens are the property of VicRoads and shall not be further split into smaller size samples, nor relocated to other facilities without permission from VicRoads.

3. Reporting

- (a) Supplier identification
- (b) Test report number and sample number evidencing range attributes for the test property
- (c) Quarry investigation report number
- (d) Date sampled
- (e) Sampling location within quarry
- (f) Durability classification
- (g) Rock category and type
- (h) Range for relevant property(s)

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VicRoads Test Method - Revision Summary

RC 372.02 – Preparation of Reference Specimens for Sound, Marginal and Unsound Stone

Date	Clause	Description of Revision	Authorised by
January 2020	3	New text	Manager – Construction Materials
April 2016	Full document	Full revision, including: Scope nominates independence from AS 1141.30.2; Preparation of reference specimens detailed.	Manager – Construction Materials
June 2013	Full document	New method, separated from old RC 372.01	Manager – Construction Materials