



**Note:** The MUNI implemented in November 2017 replaces OPSS 307 COMMON, April 2012 with no technical content changes.

**CONSTRUCTION SPECIFICATION FOR  
STOCKPILING OF PATCHING MATERIALS  
AND PATCHING OF ASPHALT PAVEMENT**

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**TABLE OF CONTENTS**

|               |   |
|---------------|---|
| <b>307.01</b> | <b>SCOPE</b>                              |
| <b>307.02</b> | <b>REFERENCES</b>                         |
| <b>307.03</b> | <b>DEFINITIONS</b>                        |
| <b>307.04</b> | <b>DESIGN AND SUBMISSION REQUIREMENTS</b> |
| <b>307.05</b> | <b>MATERIALS</b>                          |
| <b>307.07</b> | <b>CONSTRUCTION</b>                       |
| <b>307.08</b> | <b>QUALITY ASSURANCE</b>                  |
| <b>307.09</b> | <b>MEASUREMENT FOR PAYMENT</b>            |
| <b>307.10</b> | <b>BASIS OF PAYMENT</b>                   |

**APPENDICES**

|              |                   |
|--------------|-------------------|
| <b>307-A</b> | <b>Commentary</b> |
|--------------|-------------------|

**307.01 SCOPE**

This specification covers the requirements for transportation and stockpiling of patching materials and the patch repairs to asphalt pavement using SC-800 patching material, emulsified asphalt patching material, or proprietary cold patching material (PCPM).

**307.01.01 Specification Significance and Use**

This specification has been developed for use in provincial- and municipal-oriented Contracts. The administration, testing, and payment policies, procedures, and practices reflected in this specification correspond to those used by many municipalities and the Ontario Ministry of Transportation.

Use of this specification or any other specification shall be according to the Contract Documents.

### **307.01.02 Appendices Significance and Use**

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner's use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

### **307.02 REFERENCES**

When the Contract Documents indicate that provincial-oriented specifications are to be used and there is a provincial-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.PROV, unless use of a municipal-oriented specification is specified in the Contract Documents. When there is not a corresponding provincial-oriented specification, the references below shall be considered to be to the OPSS listed, unless use of a municipal-oriented specification is specified in the Contract Documents.

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

#### **Ontario Provincial Standard Specifications, Construction**

OPSS 309 Cold Mixed, Cold Laid, Open and Dense Graded Bituminous Mix

#### **Ontario Provincial Standard Specifications, Material**

OPSS 1003 Aggregates - Hot Mix Asphalt  
OPSS 1152 SC-800 Patching Material  
OPSS 1153 Emulsified Asphalt Patching Material

#### **Ontario Ministry of Transportation Publications**

MTO Laboratory Testing Manual:

LS-282 Quantitative Extraction of Asphalt Cement and Analysis of Extracted Aggregate from Bituminous Paving Mixtures  
LS-289 Workability of Cold Bituminous Patching Materials by Blade Resistance Method

### **307.03 DEFINITIONS**

For the purpose of this specification, the following definitions apply:

**Binder** means the approved bituminous binding material conforming to the manufacturer's product specification.

**Manufacturer** means the company that produces the PCPM being used.

**Manufacturer's Product Specification** means the manufacturer's PCPM specification, including the ingredients that were submitted to obtain Owner approval of the PCPM.

**Manufacturer Terminal** means the location where the final PCPM is produced, without further blending or modification prior to distribution to the work site.

**Proprietary Cold Patching Material (PCPM)** means a cold patching mix consisting of binder and aggregates, and manufactured by a specific company.

### **307.04 DESIGN AND SUBMISSION REQUIREMENTS**

#### **307.04.01 Design Requirements**

##### **307.04.01.01 Proprietary Cold Patching Material**

PCPM to be stockpiled shall be capable of maintaining its effective properties for a minimum period of 8 months from the date of supply.

#### **307.04.02 Submission Requirements**

##### **307.04.02.01 Proprietary Cold Patching Material**

A copy of the manufacturer's product specification shall be submitted to the Contract Administrator at least 7 Days prior to delivery of the mix.

### **307.05 MATERIALS**

#### **307.05.01 SC-800 Patching Material**

SC-800 patching material shall be according to OPSS 1152 and this specification.

#### **307.05.02 Emulsified Asphalt Patching Material**

Emulsified asphalt patching material shall be according to OPSS 1153 and this specification.

#### **307.05.03 Proprietary Cold Patching Material**

The PCPM shall be according to the manufacturer's product specification and this specification, and shall be either a summer or winter mix category as specified in the Contract Documents. The PCPM shall be supplied directly from the manufacturer's terminal without further blending or modification.

The aggregates used in the PCPM shall consist of clean, hard, durable particles meeting the physical requirements for Superpave 12.5 as specified in OPSS 1003.

All PCPM supplied shall be uniformly coated.

**307.06 EQUIPMENT**

**307.06.01 Placement and Compaction**

Suitable method, equipment, and hand tools or according to the Equipment section of OPSS 309 shall be used for placing and compaction of patching materials.

**307.07 CONSTRUCTION**

**307.07.01 Stockpiling**

Stockpiles shall be built at locations specified in the Contract Documents to a maximum height of 3 m. Stockpiles shall be constructed in such a manner that compaction, other than by the weight of the material itself, shall not result.

Equipment shall not be run over the surface of the stockpile.

**307.07.02 Delivery**

The mixture shall be transported in vehicles with smooth metal boxes in good and leak-proof condition, previously cleaned of all foreign materials.

Truck boxes shall be lightly coated with a uniform application of a release agent just prior to loading. If liquid agent is used, the truck boxes shall be drained after each application and prior to loading.

**307.07.03 Placement and Compaction**

**307.07.03.01 General**

Asphalt repairs using patching material shall be carried out at the locations identified in the Contract Documents.

At the time of use, stockpiled patching material shall exhibit uniform coating, good cohesion and workability, and be in accordance with the material specification requirements.

The Contractor shall ensure proper adhesion of the mixture placed during the patching operation to the adjacent surfaces.

For repairs, patching material shall be placed in the repair area and compacted as specified in the Contract Documents. Placement and compaction of the patching material shall be sufficient to meet the requirements of the Surface Appearance subsection of this specification.

For repairs exceeding 50 mm in depth, the patching material shall be placed in lift thicknesses of maximum 50 mm in depth and each lift shall be compacted prior to the addition of the next lift.

**307.07.03.02 SC-800 Patching Material and Emulsified Patching Material**

The surface on which the patching material is placed shall be free of dirt, sand, foreign matter, and loose material and the repair area shall be free of standing water.

**307.07.03.03 Proprietary Cold Patching Material**

The surface on which the patching material is placed shall be free of dirt, sand, foreign matter, and loose material. Standing water in the repair area shall be removed, if required by the PCPM manufacturer's installation instructions.

#### **307.07.04 Surface Appearance**

After placement and final compaction of the patching material, patches shall be free of defective areas, including, but not limited to wheel track marking, ravelling, uneven surface, and fat spots.

#### **307.07.05 Sampling**

The Contractor shall provide patching material samples when requested by the Owner. Samples may be requested before or during the construction and from the stockpile, truck, or during placement of the material.

Samples required for stripping resistance, workability, and cohesion testing shall be a minimum 25 kg. Samples required for extraction and gradation testing shall be a minimum 15 kg.

The work shall include sampling, packaging, labelling, and delivery of the samples to the laboratory designated in the Contract Documents. Sample containers shall be supplied by the Contractor and shall be metal containers equipped with a wire handle and a tight fitted lid. Samples shall be labelled with the following information:

- a) Contract No.
- b) Sampling date
- c) Mixture type and name
- d) Sampling location
- e) Manufacturer's name
- f) Contractor's name
- g) Weather conditions at the time of sampling
- h) Sampler's name

#### **307.07.06 Management of Excess Material**

Management of excess material shall be as specified in the Contract Documents.

### **307.08 QUALITY ASSURANCE**

#### **307.08.01 Acceptance**

Acceptance of all patching work shall be based on visual observation of the patching material, surface appearance of the patch at the time of patching, continuity with adjacent surfaces, and conformance of the patching materials to the requirements of this specification.

#### **307.08.02 Visual Observation**

During the time of patching, the mix used shall exhibit uniform coating, good cohesion, and workability.

**307.08.03 Surface Appearance**

All patches after final compaction shall be free of defective areas, including, but not limited to wheel track marking, ravelling, uneven surface, and fat spots. Areas showing such defects shall be deemed rejectable.

**307.08.04 Sampling**

Representative samples of the patching mixture may be taken at any time for testing by the Owner.

**307.08.05 Testing**

Patching material samples may be tested by the Owner to ensure it meets the requirements of this specification.

The Owner may request the Contractor to provide test results showing that the patching material possesses required property as determined by the following tests.

**307.08.05.01 Emulsified Asphalt Patching Material and Proprietary Cold Patching Material**

**307.08.05.01.01 Stripping Resistance**

Stripping resistance of samples shall be determined using the following procedure:

- a) Place 50 g of the patching material in 400 mL of boiling distilled water in a 600 mL glass beaker.
- b) Stir the mixture with a glass rod at one revolution per second for 3 minutes.
- c) Once stirring is complete, visually evaluate the percentage of coating retained.

Samples with retained coatings of less than 75% shall be deemed rejectable

**307.08.05.01.02 Workability**

Workability of the patching material sample shall be determined according to LS-289.

Patching material with a workability index of more than 2,000 N shall be deemed rejectable.

**307.08.05.01.03 Cohesion**

Cohesion of the patching material sample shall be determined by LS-290.

Patching material with a cohesion index of less than 60% shall be deemed rejectable.

**307.08.05.02 SC-800 Patching Material**

**307.08.05.02.01 Extraction and Gradation**

Residual Asphalt Content and Gradation of SC-800 Patching Material shall be determined according to LS-282.

SC-800 Patching Material not complying within the requirements of the subsection for Tolerances of OPSS 1152 shall be deemed rejectable.

**307.08.06                      Rejection**

All material and patches deemed rejectable by the Contract Administrator shall be removed and replaced. The replaced portion of the work shall meet the requirements of this specification.

**307.09                              MEASUREMENT FOR PAYMENT**

**307.09.01                      Actual Measurement**

**307.09.01.01                  SC-800 Patching Material  
Emulsified Asphalt Patching Material  
Proprietary Cold Patching Material**

Measurement of patch material shall be by mass in tonnes as specified in the Contract Documents.

**307.10                              BASIS OF PAYMENT**

**307.10.01                      SC-800 Patching Material - Item  
Emulsified Asphalt Patching Material - Item  
Proprietary Cold Patching Material - Item**

Payment at the Contract price for the above tender items shall be full compensation for all labour, Equipment, and Material to do the work.

Replacement of rejected materials and patches shall be at no extra cost to the Owner.

**Appendix 307-A, November 2017  
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS**

**Note:** This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract. This appendix does not form part of the standard specification. Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

**Designer Action/Considerations**

The designer should determine if the following are required and, if so, specify them in the Contract Documents:

- Winter or summer mix category of PCPM. (307.05.03)
- Stockpile locations. (307.07.01)
- Asphalt repair location. (307.07.03.01)
- Compaction requirements. (307.07.03.01)
- Location of laboratory for delivery of samples. (307.07.05)

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

**Related Ontario Provincial Standard Drawings**

No information provided here.