



## Florida Department of Transportation

RICK SCOTT  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.  
SECRETARY

July 23, 2012

Monica Gourdine  
Program Operations Engineer  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

Re: Office of Design, Specifications  
Section **919**  
Proposed Specification: **9190000 Ground Tire Rubber for Use in Asphalt Rubber Binder.**

Dear Ms. Gourdine:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

These changes were proposed by Greg Sholar of the State Materials Office to update the language for current Department and Industry practice and for formatting.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965TT or [trey.tillander@dot.state.fl.us](mailto:trey.tillander@dot.state.fl.us).

If you have any questions relating to this specification change, please call me at 414-4140.

Sincerely,

Signature on file

V. Y. "Trey" Tillander, III, P.E.  
State Specifications Engineer

TT/dt

Attachment

cc: Florida Transportation Builders' Assoc.  
State Construction Engineer

**GROUND TIRE RUBBER FOR USE IN ASPHALT RUBBER BINDER.**  
**(REV 5-9-12)**

SECTION 919 (Pages 846 - 844) is deleted and the following substituted:

**SECTION 919**  
**GROUND TIRE RUBBER**  
**FOR USE IN ASPHALT RUBBER BINDER**

**919-1 Description.**

This ~~Specification~~*ection* governs ground tire rubber for use in asphalt rubber binders for use in a variety of paving applications.

**919-2 General Requirements.**

The ground tire rubber shall be produced from tires by an ambient grinding method. The entire process or a final separate grinding process shall be at or above ordinary room temperature. The rubber shall be sufficiently dry so as to be free flowing and to prevent foaming when mixed with asphalt cement. The rubber shall be substantially free from contaminants including fabric, metal, mineral, and other non-rubber substances. Up to- 4% (by weight of rubber) of talc or other inert dusting agent, may be added to prevent sticking and caking of the particles.

The ground tire rubber used shall be one of the products listed on the Department's Qualified Products List (QPL). Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

**919-3 Physical Requirements.**

The physical properties of the ground tire rubber shall be determined in accordance with FM 5-559, and shall meet the following requirements:

Specific Gravity ..... 1.06 to 1.20

Moisture Content .....Maximum 0.75%

Metal Contaminants .....Maximum 0.01%

Gradation - The gradation shall meet the limits shown in Table- 919-1 for the type of rubber specified.

Table -919-1 Gradations of Ground Tire Rubber			
Sieve Size % Passing	<del>Type-A</del>	Type -B	Type -C
No. -16	<del>---</del>	---	100
No. -30	<del>---</del>	100	70-100
No. -50	<del>100</del>	40-60	20-40
No. -100	<del>50-80</del>	---	---

**919-4 Chemical Requirements.**

The chemical composition of the ground tire rubber shall be determined in accordance with ASTM D 297 and shall meet the following requirements:

Acetone Extract.....	Maximum 25%
Rubber Hydrocarbon Content.....	40 to 55%
Ash Content* .....	Maximum 8%
Carbon Black Content.....	20 to 40%
Natural Rubber.....	16 to 45%

\* ~~10% for Type A rubber~~<sup>[dt1]</sup>

**919-5 Packaging and Identification Requirements.**

The ground tire rubber shall be supplied in moisture resistant packaging such as either disposable bags or other appropriate bulk containers. Each container or bag of ground tire rubber shall be labeled with the manufacturer's designation for the rubber and the specific type, maximum nominal size, weight and manufacturer's batch or LOT designation.

**919-6 Certification Requirements.**

The Contractor shall provide the Engineer a certification conforming to the requirements of Section 6 from the manufacturer, confirming that the ground tire rubber meets the requirements of this Section.

**GROUND TIRE RUBBER FOR USE IN ASPHALT RUBBER BINDER.  
(REV 5-9-12)**

SECTION 919 (Pages 846 - 844) is deleted and the following substituted:

**SECTION 919  
GROUND TIRE RUBBER  
FOR USE IN ASPHALT RUBBER BINDER**

**919-1 Description.**

This Section governs ground tire rubber for use in asphalt rubber binders for use in a variety of paving applications.

**919-2 General Requirements.**

The ground tire rubber shall be produced from tires by an ambient grinding method. The entire process or a final separate grinding process shall be at or above ordinary room temperature. The rubber shall be sufficiently dry so as to be free flowing and to prevent foaming when mixed with asphalt cement. The rubber shall be substantially free from contaminants including fabric, metal, mineral, and other non-rubber substances. Up to 4% (by weight of rubber) of talc or other inert dusting agent, may be added to prevent sticking and caking of the particles.

The ground tire rubber used shall be one of the products listed on the Department's Qualified Products List (QPL). Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

**919-3 Physical Requirements.**

The physical properties of the ground tire rubber shall be determined in accordance with FM 5-559, and shall meet the following requirements:

Specific Gravity .....	1.06 to 1.20
Moisture Content .....	Maximum 0.75%
Metal Contaminants .....	Maximum 0.01%

Gradation - The gradation shall meet the limits shown in Table 919-1 for the type of rubber specified.

Table 919-1 Gradations of Ground Tire Rubber			
Sieve Size % Passing		Type B	Type C
No. 16		---	100
No. 30		100	70-100
No. 50		40-60	20-40
No. 100		---	---

**919-4 Chemical Requirements.**

The chemical composition of the ground tire rubber shall be determined in accordance with ASTM D 297 and shall meet the following requirements:

Acetone Extract.....	Maximum 25%
Rubber Hydrocarbon Content.....	40 to 55%
Ash Content .....	Maximum 8%
Carbon Black Content.....	20 to 40%
Natural Rubber.....	16 to 45%

**919-5 Packaging and Identification Requirements.**

The ground tire rubber shall be supplied in moisture resistant packaging such as either disposable bags or other appropriate bulk containers. Each container or bag of ground tire rubber shall be labeled with the manufacturer's designation for the rubber and the specific type, maximum nominal size, weight and manufacturer's batch or LOT designation.

**919-6 Certification Requirements.**

The Contractor shall provide the Engineer a certification conforming to the requirements of Section 6 from the manufacturer, confirming that the ground tire rubber meets the requirements of this Section.