

## ORIGINATION FORM

Date: **11-02-12**

Originator: **Greg Sholar**

Contact Information: **352.955.2920**      **gregory.sholar@dot.state.fl.us**

Specification Title: **Asphalt Rubber Binder**

Specification Section, Article, or Subarticle Number: **336**

Why does the existing language need to be changed? **To make compliant with other specification changes.**

Summary of the changes: **1. Removal of ARB-5 and ARB-12. These binders are to be replaced with PG 76-22 (ARB) specified in 916. 2. Change the viscosity requirements of ARB-20 to reflect the change in the base binder from a PG 64-22 to a PG 67-22, since PG 64-22 is being eliminated.**

Are these changes applicable to all Department jobs? **Yes.**  
If not, what are the restrictions?

Will these changes result in an increase or decrease in project costs? **No.**  
If yes, what is the estimated change in costs?

With who have you discussed these changes? **Asphalt specifications working group comprised of Department and Industry representatives.**

What other offices will be impacted by these changes? **Construction.**

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? **No.**

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? **No.**

Contact the State Specifications Office for assistance in completing this form.

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## *Florida Department of Transportation*

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ANANTH PRASAD, P.E.  
SECRETARY

### MEMORANDUM

**DATE:** December 4, 2012

**TO:** Specification Review Distribution List

**FROM:** Trey Tillander, State Specifications Engineer

**SUBJECT:** Proposed Specification: **3360300 Asphalt Rubber Binder.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Gregory Sholar, State Materials Office, for the removal of ARB 5 and ARB 12. These binders are to be replaced with PG 76-22 (ARB 20) specified in Section 916. This specification also changes the viscosity requirements of ARB 20 to reflect the change in the base binder from a PG 64-22 to a PG 67-22, since PG 64-22 is being eliminated.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965TT or [trey.tillander@dot.state.fl.us](mailto:trey.tillander@dot.state.fl.us). Comments received after **January 1, 2013**, may not be considered. Your input is encouraged.

TT/cah  
Attachment

**ASPHALT RUBBER BINDER.**  
**(REV 11-260-12)**

ARTICLE 336-3 (Page 280) is deleted and the following substituted:

**336-3 Asphalt Rubber Binder.**

Thoroughly mix and react the asphalt binder and ground tire rubber in accordance with the requirements of Table 336-1. Accomplish blending of the asphalt binder and ground tire rubber at the project site or asphalt plant, or at the supplier's terminal.

<i>Table 336-1</i>			
<i>Asphalt Rubber Binder</i>			
<i>Binder Type</i>	<i>ARB 5</i>	<i>ARB 12<sup>(1)</sup></i>	<i>ARB 20</i>
<i>Rubber Type</i>	<i>TYPE A (or B)<sup>(4)</sup></i>	<i>TYPE B (or A)<sup>(2)</sup></i>	<i>TYPE C (or B or A)<sup>(2)</sup></i>
<i>Minimum Ground Tire Rubber (by weight of asphalt binder)</i>	<i>5%</i>	<i>12%</i>	<i>20%</i>
<i>Binder Grade</i>	<i>PG 67-22</i>	<i>PG 67-22</i>	<i>PG 6467-22</i>
<i>Temperature Range</i>	<i>300-335°F</i>	<i>300-350°F</i>	<i>335-375°F</i>
<i>Minimum Reaction Time</i>	<i>10 minutes</i>	<i>15 minutes (Type B)</i>	<i>30 minutes (Type C)</i>
<i>Unit Weight @ 60°F<sup>(32)</sup></i>	<i>8.6 lbs/gal.</i>	<i>8.7 lbs/gal.</i>	<i>8.8 lbs/gal.</i>
<i>Viscosity Range<sup>(43)</sup></i>	<i>4.0-6.0 Poises @ 300°F</i>	<i>10.0-15.0 Poises @ 300°F</i>	<i>15.0-20.0 Poises @ 350°F</i>
<p>(1) Use of Type B rubber may require an increase in the mix temperature in order to offset higher viscosity values.            (2) Use of finer rubber could result in the reduction of the minimum reaction time.            (32) Conversions to standard 60°F are as specified in 300-9.3.            (43) FM 5-548, Viscosity of Asphalt Rubber by Rotational (Dip-N-Read) Viscometer or AASHTO T 316, Viscosity Determination of Asphalt Binder Using Rotational Viscometer.            NOTE: The Contractor may adjust the minimum reaction time if approved by the Engineer depending upon the temperature, size of the ground tire rubber and viscosity measurement determined from the asphalt rubber binder material prior to or during production. Apply the asphalt rubber binder for use in membrane interlayers within a period of six hours, unless some form of corrective action such as cooling and reheating is approved by the Engineer.</p>			

<i>Table 336-1</i>	
<i>Asphalt Rubber Binder</i>	
<i>Binder Type</i>	<i>ARB 20</i>
<i>Rubber Type</i>	<i>Meeting the requirements of Section 919 TYPE C (or B)<sup>(4)</sup></i>
<i>Minimum Ground Tire Rubber (by weight of asphalt binder)</i>	<i>20%</i>
<i>Binder Grade</i>	<i>PG 67-22</i>
<i>Temperature Range</i>	<i>335 - 375°F</i>
<i>Minimum Reaction Time</i>	<i>30 minutes (Type C)</i>

<i>Table 336-1</i>	
<i>Asphalt Rubber Binder</i>	
<i>Unit Weight @ 60°F<sup>(21)</sup></i>	<i>8.8 lbs/gal.</i>
<i>Viscosity Range<sup>(32)</sup></i>	<i>15.0 - 20.0 Poises @ 350°F</i>
<p><del>(1) Use of finer rubber could result in the reduction of the minimum reaction time.</del></p> <p><del>(2) Conversions to standard 60°F are as specified in 300-9.3.</del></p> <p><del>(3) FM 5-548, Viscosity of Asphalt Rubber by Rotational (Dip-N-Read) Viscometer or AASHTO T 316, Viscosity Determination of Asphalt Binder Using Rotational Viscometer.</del></p> <p><i>NOTE: The Contractor may adjust the minimum reaction time if approved by the Engineer depending upon the temperature, size of the ground tire rubber and viscosity measurement determined from the asphalt rubber binder material prior to or during production. Apply the asphalt rubber binder for use in membrane interlayers within a period of six hours, unless some form of corrective action such as cooling and reheating is approved by the Engineer.</i></p>	