

971000 TRAFFIC MARKING MATERIALS  
COMMENTS FROM INDUSTRY REVIEW

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Paul Gentry  
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Comments:

The test method ASTM D522, referred to in 971-3.3 and 971-4.3 shows up on the SMO IHS Standards Expert-search as being identified as "ASTM D522 Rev A"

Response:

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Paul Gentry  
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Comments:

971-8.3 Flexability Flexability test "Fed-Spec TT-P-115D" is being replaced in 971-3.3 and 4.3 with D522. Does this not need to be change here also

Response:

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Paul Gentry C.P.M.  
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Comments:

The new test method for Bleed Ratio in 971-3.3 and 971- 4.3 is ASTM D969. Section 3.1 in ASTM D969-85 (Reapproved 2003), as found on the State Materials Office IHS Standards Expert search, states the following:

**3. Significance and Use**

3.1 Solvents in a traffic paint may cause bleeding of pavement constituents into the traffic marking, thereby rendering the traffic marking less effective as a lane or directional indicator. This test method describes how to prepare a panel for evaluation. **The very subjective method of evaluating the degree of bleeding raises questions as to the usefulness of the result for specification compliance.**

Following the procedure of ASTM 969 Section 6.4, the degree of bleeding is to be rated numerically in accordance with the "nearest photographic reference standard in Method D868." When one reads D868, Section 4.1 (Significance and Use) states the following:

4.1 Solvents in a traffic paint may cause bleeding of pavement constituents into the traffic marking, thereby rendering the traffic marking less effective as a lane or directional indicator. This test method in conjunction with the method for panel preparation in Test Method D 969 is used to evaluate such bleeding properties. **The evaluation is very subjective and raises questions as to the usefulness of the results for specification compliance.**

When reading the precision of ASTM D868, this is what is stated:

ASTM D868-85 (Reapproved 2003) states in 6.1 Precision **“Due to the poor precision of this test method, if it is used in a specification, the permissible deviation from the maximum specified value should be agreed upon between the purchaser and the seller.**

I have 2 questions pertaining to this method:\

1. Why use this test method to evaluate Bleeding when ASTM even states that it is not a reliable test to be used within a specification?
2. If this test method is used, how does the minimum of .95 equate into the below requirement from D969-85 (Reapproved 2003) Section 6.4 stated below? Is this a percentage, value, ect?

6.4 Immediately after completion of 48-h drying, observe the contrast in color between the portion of the film over the tape and that portion that is in direct contact with the test panels. Rate the **degree of bleeding numerically** in accordance with the nearest photographic reference standard in TestMethod **D 868**.

**Response:**

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Paul Vinik  
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**Comments:**

The changes made are well warranted. The only question I have is the set to bear traffic time for 2 component materials. This specification change has given 10 mins for durable paints, which I assume will only be used on new roadways and therefore the 10 min constraint is not too arduous for reasonable application. Can the set to bear for 2 component be extended, to say 5 mins without causing application issues? Most or all of the 2 component products tested do not meet the 2 min requirement?

**Response:**

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Duane Brautigam

Comments:

Please cross check the renumbering of the Articles in 971 caused by the elimination of current 971-6 Hot Spray Thermo Material. I suspect there are numerous cross references to the old 971-7 through 971-10 (new 971-6 through 971-9) that would need affected. As an example, the 701-2.1 of the current Supplemental Spec still shows a reference to 971-10, and that has not been changed in the current proposed revision to 701.

Response:

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Paul Gentry C.P.M.  
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Comments:

By changing the specification requirement for 971-2.2, Roundness in the Type 1, 2, 3 and 5 beads to a minimum of 70% by weight, is this not “lowering” the standard we have required for beads? Is there any long term supporting data to show that reflectivity values will not be affected and will stay at or above what we are currently seeing in the field? If this is accepted and products start showing lower reflectivity values and possibly failing on our test decks for the QPL, we hold the manufacturer responsible for the failure, not the producer of the beads. At present, my understanding is that most contractors order 80% round beads for project installations, which exceeds what our present specification states now. By dropping the individual sieve sizes for true spheres, it would seem like there might be a possibility of a higher percentage of irregulars showing up, when the determination is done by weight. I would suggest changing the minimum suggested from 70% to 80% by weight, which is what is presently being done now by contractors.

Response:

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Scott Pantall  
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Comments:

Dear Chester, Regarding the proposed High Index Glass Bead Spec, I would like to suggest the following: All of the feedback from my company suggest that the gradation proposed is acceptable. We would like to suggest that the minimum refractive index be changed from 1.9 to 1.65. This would allow manufacturers the opportunity to supply glass beads that are more durable and can achieve comparable retroreflectivity values by using different chemistries. Basically, this would give manufacturers greater flexibility in offering the contractor glass beads that achieve the required higher retroreflectivity values. Making this change would also benefit the State by allowing contractors to use a more durable glass bead that not only achieves high

initial values but maintains those values for a greater length of time. Regards, Scott Pantall  
Swarco PH# 904-998-8114 FX# 904-998-9702

**Response:**

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Karen Byram  
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**Comments:**

In 971-2.2 Glass Spheres, by removing the true spheres per sieve size it will reduce the total roundness of the material with lower reflectivity as a consequence. Was this the intended outcome? If so, how is that justified? I suggest that this requirement should not be changed.

**Response:**

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