Washington State
Department of Transportation

Memorandum

June 10, 2011

TO: Pasco Bakotich
State Design Engineer
MS-47330

FROM: Ted Bailey
Signal, Illumination and ITS Engineer
(360) 705-7286
MS-47344

SUBJECT: **Statewide Blanket Proprietary Item Request**

WSDOT requests a statewide blanket approval for slip resistant applications for utility boxes and frames for the 2011 – 2013 biennium.

WSDOT is implementing Americans with Disabilities Act (ADA) and Public Right-of-Way Accessibility Guideline (PROWAG) slip resistance recommendations for junction box, cable vault, and pull box lids and frames located in pedestrian circulation routes such as sidewalks, walkways, shared use paths, etc.

WSODT only knows of two manufactures that produce and apply non-slip surfaces that have lasted up to 10 years and meet the recommended coefficient of friction without being too rough:

- Mebac1 (their most aggressive surface) as manufactured by IKG industries.
- SlipNOT Grade 3-coarse as manufactured by W.S. Molnar Company.

Both of these applications have been used by the City of Seattle in outdoor applications and have lasted for 10 years. There are other lower cost, adhesive backed materials that meet the suggested coefficient of friction number that could be applied to the surface of these boxes. But it is predicted that these materials would last less than 6 months when applied to steel in an outdoor setting before needing replacement.

WSDOT is committed to performance specifications, is continuing to research the test procedures, and will evaluate additional products as they come available. When there is industry agreement as to which test procedure is "the" test procedure, WSDOT will change to a performance based specification.

The ADA recommendation is that walking surfaces have a static coefficient of friction of 0.6 for PAR's. There are multiple testing procedures (ASTM C-1028, ASTM E303, and ASTM D2047) that can be used to test the static coefficient of friction values for manufactured products.

Each method returns different values for the same product. For example, published testing results for SlipNOT material with the different test methods returns these values: (Mebac 1 returns similar results)

ASTM test procedure	Dry	Wet
ASTM E303	0.91	0.89
ASTM D2047	>1.2	>1.2
ASTM C1028	1.09	0.99

The industry is providing competing test methods that return different results when measuring the same material. Although each test result for this material exceeds the ADA recommended value of a static coefficient of Froction of 0.6, the values are different, and ther is no selection criteria that would recommend use of one test method over another. These tests are performed on new material and there is not a test that predicts how long this material will last in use. WSDOT would prefer to use a performance based specification that is tied to one test methd that measures the initial static COF value and also predicts the durability of the product.

It is in the publics best interest for the WSDOT to specify these manufacturer's applications for use in WSDOT projects throughout the state because there is no other equally suitable alternative. Thse two manufacturer's applications are the only non-slip surface applications that have lasted years and meet the required coefficient without being too rough. Other alternative applications are not equal in longevity and durability.

If you have any questions or need additional information, please contact Ted Bailey at (360) 705-7268 or baileyte@wsdot.wa.gov.

WSDOT Approval

Date: 6/10/11

By: Pasco Bakotich

Pasco Bakotich, P.E.
State Design Engineer

FHWA Approval

Date: 6/24/2011

By: Donald A Petersen

Don Petersen
Safety & Geometric Design Engineer