COLORADO DEPARTMENT OF TRANSPORTATION

PRE-APPROVED PRODUCT EVALUATION REQUEST & SUMMARY

APL Reference No. 2824-13

Product Evaluation Coordinator
Colorado Department of Transportation
4670 North Holly Street, Unit A
Denver, Colorado 80216

Material code: 713.13.01.00

FOR INTERNAL CDOT USE

Material code description full name: Traffic Control, Preformed Plastic Matl

PART 1

Product name: 381AW-5 Y on B, 3M Stamark™ High Perf. All Weather Contrast

Product category: TC\PMM\Preformed Plastic Tape, Type II, Permanent

Product representative (name & address):
Attn: Ted Denisuk
3M Company-Traffic Safety and Security Division
1370 Quentin Street
Aurora, CO 80011
Phone: (303) 520-6754 FAX: (303) 344-2161

Manufacturer (name & address):
Attn:
3M Company-Traffic Safety and Security Division
3M Center, Building 235-3A-09
St. Paul, MN 55144-1000
Phone: (800) 553-1380 FAX: (800) 591-9293

Web-site address: www.3M.com/roadwaysafety

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Description of the product: (Include specific quantifiable details from tech data sheet. Advertising generalities are not appropriate.)
3M™ Stamark™ High Performance All Weather Tape Series 381AW-5 is an improved durable contrast pavement marking tape that utilizes specially designed optics to provide wet and dry performance. 381AW-5 has abrasion-resistant microcrystalline ceramic beads bonded in a highly durable polyurethane topcoat. 381AW-5 pavement marking tape is 381AW (yellow) with matte black on the sides of the 380AW. Series 381AW-5 new improved patterned surface presents a near vertical surface to traffic which maximizes the retroreflectance of the tape. 381AW-5 has an embedded net which provides an increased tear resistance along with an improved pressure sensitive adhesive (PSA) package on bottom surface that allows for "Extended Season" application.

All Weather Tape Series 381AW-5 is an improved version of 381WR ES, upgrading the square directional pattern to a diamond non-directional pattern. Entrance Angle is 88.76°, Observation Angle is 1.05°, Retroreflected Luminance is 300 (Wet & Rainy 200).

Restrictions, (installation and/or use):
Series 381AW-5 tape cannot be applied below 40°F.

Use of the product, (be specific to CDOT highway activities only):
Designed for longitudinal markings on sun-bleached, light-colored ACC or PCC surfaces where greater contrast and increased brightness is required.

Benefits to CDOT, (how will your product enhance quality, improve safety, save money, be a better value then other manufacturer's products):
Series 381AW-5 premium patterned design and specially designed optics provide wet and dry performance as well as wet recovery in rain conditions. 381AW-5 is highly durable, has abrasion-resistant microcrystalline ceramic beads, excellent initial and retained reflectivity and 48 month warranty for longitudinal applications. "Extended Season" adhesive allows for year round application down to 40° F within application guidelines.

Specifications, (listing those applicable is required) **& Certificate of Compliance** (required to certify compliance with listed specifications):

- [x] CDOT : Standard Specification Section 627 & 713.13 Type I
- [x] ASTM : D 4505-12
- [ ] AASHTO :
- [ ] FHWA :
- [x] other : Certificate of Conformance to ASTM D 4505 and CDOT specification

Product testing, (from national/independent laboratories or universities) **& Certified Test Report** (CTR required to validate all claims):

- [x] NTPEP-AASHTO : PMM-2010-01-029, 3M Stamark 381AW
- [ ] FHWA :
- [ ] other :
- [x] other : Future Labs (May 14, 2013)

State DOT Approvals, (current documentation required):
AZ, MI, MN, NE, NM, OH, OK, OR

Sample submitted: [x] yes [ ] no [ ] n/a | Materials Safety Data Sheets (MSDS): [x] yes [ ] no [ ] n/a

Notes/Additional Comments