

Hwy. 14 Test Deck – IBIS MMA Extruded & Spray Traffic Marking (Trial Product)

Application Date: November 14, 2007

Last Evaluation Date: April 1, 2010

Summary

Durability

The MMA extruded and sprayed traffic markings are performing very well after 3 winters on the departments test deck. The test stripes are mostly intact, very little debonding from the road surface has occurred. The thicker extruded lines show some chipping of the MMA material, this is attributed to the thicker material which is surface applied and is more susceptible to snow plows. The thinner spray application lines are showing better durability against snow plows.

Retro-reflectivity

Retro-reflectivity readings have been taken in the wheel path of the lines over the past 3 years. Retro-reflective readings dropped drastically after the first winter, however since the winter of 2008 they have stabilized and remained fairly consistent (see charts below). These lines should provide the same level of service for a couple of more years.

White MMA lines: as can be seen on charts 1 & 2 Line 5 (30mil spray) and Line 7 (23 mil spray) are still providing fair to good retro-reflectivity, 72 to 88 Millicandelas (Mcd).

Yellow MMA lines: as can be seen on charts 3 & 4 Line 12 (18 mil spray) and Line 8 (32 mil spray) are the best performing lines for the yellow test lines, the retro-reflectivity of these lines is 50 Mcd and 53 Mcd respectively.

It is important to note the following:

- These lines were surface applied therefore no protection from snow plows.
- The thinner sprayed MMA performed the best over the last 3 winters. The extruded MMA has not performed as well as the sprayed MMA. The white lines are mostly intact; however the retro-reflectivity readings have fallen off significantly over the three winters. However, since these markings are surface applied they are performing fairly well when considering the damage caused by snow plows (scrapping off material and glass beads).
- The retro-reflectivity is taken in the wheel path as per the Road Service Test Evaluation (ASTM D713) which is an accelerated wear test. The test stripes are applied Transverse to the road and are crossed over by vehicles more frequently than the normal longitudinal applied traffic markings.
- The retro-reflectivity readings are below the 100 Mcd levels which are considered an acceptable retro-reflectivity reading. However, I feel that the readings would be higher on longitudinal lines as they are not crossed over as frequently as transverse lines (less wear).

Recommendations

1. This product is currently listed as a Trial Product, I recommend advancing this product to the Proven Products category.
2. Spray MMA performs better than the extruded MMA, therefore spray MMA would be recommended.
3. Recommend application thickness for the spray MMA in the range of 20 mils to 30 mils for surface applied applications.
4. Recommend surface applied applications when only a 2 year warranty is required.
5. Recommend milling and spraying or extruded MMA for a longer warranty period than 2 years.
6. Recommend to use this product when wet night properties are not required (existing overhead lighting is present). This product is more cost effective than the durable wet night products.

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Test Deck



White MMA Durable Markings (Extruded and sprayed), Surface applied

Chart 1

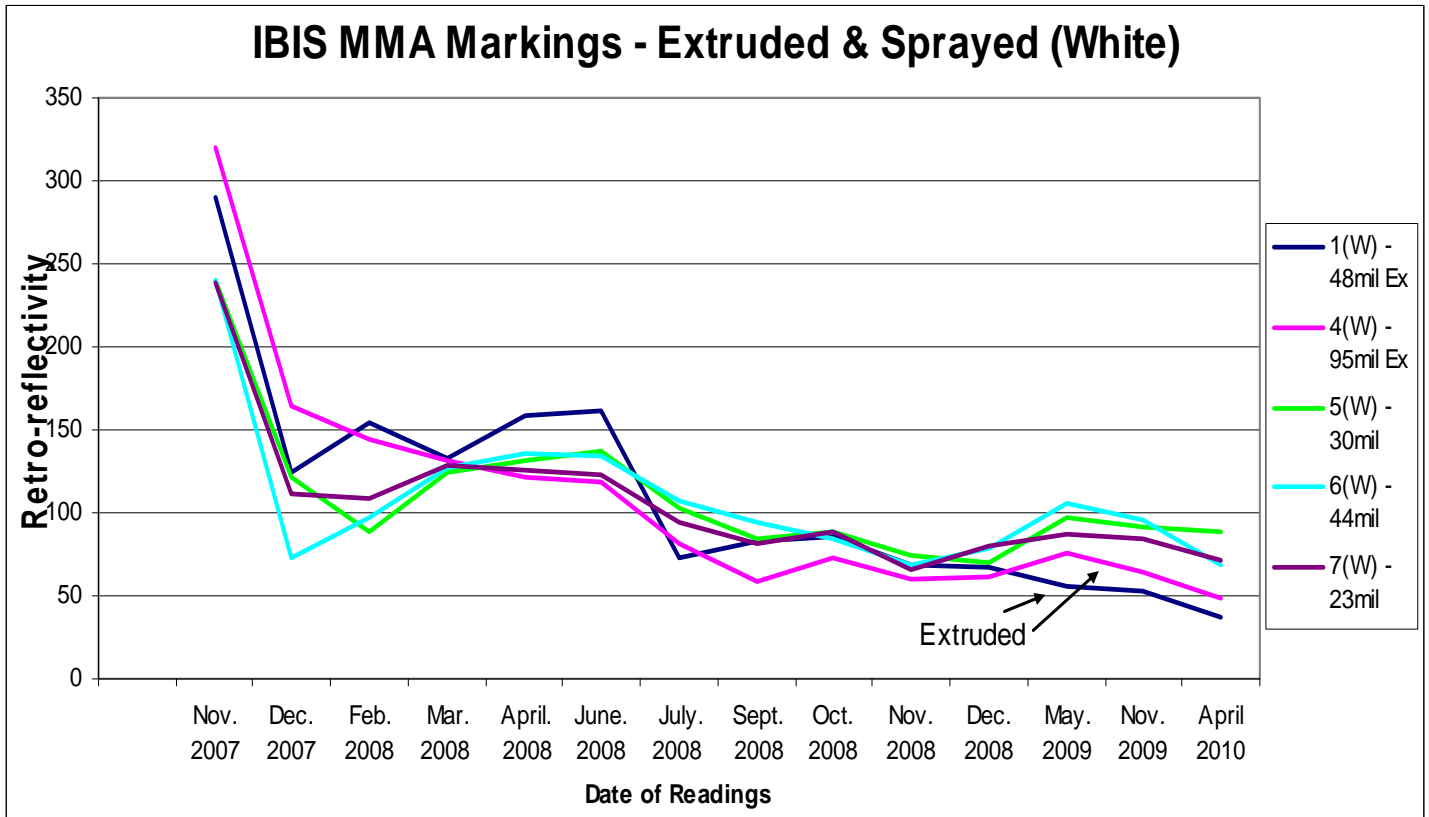
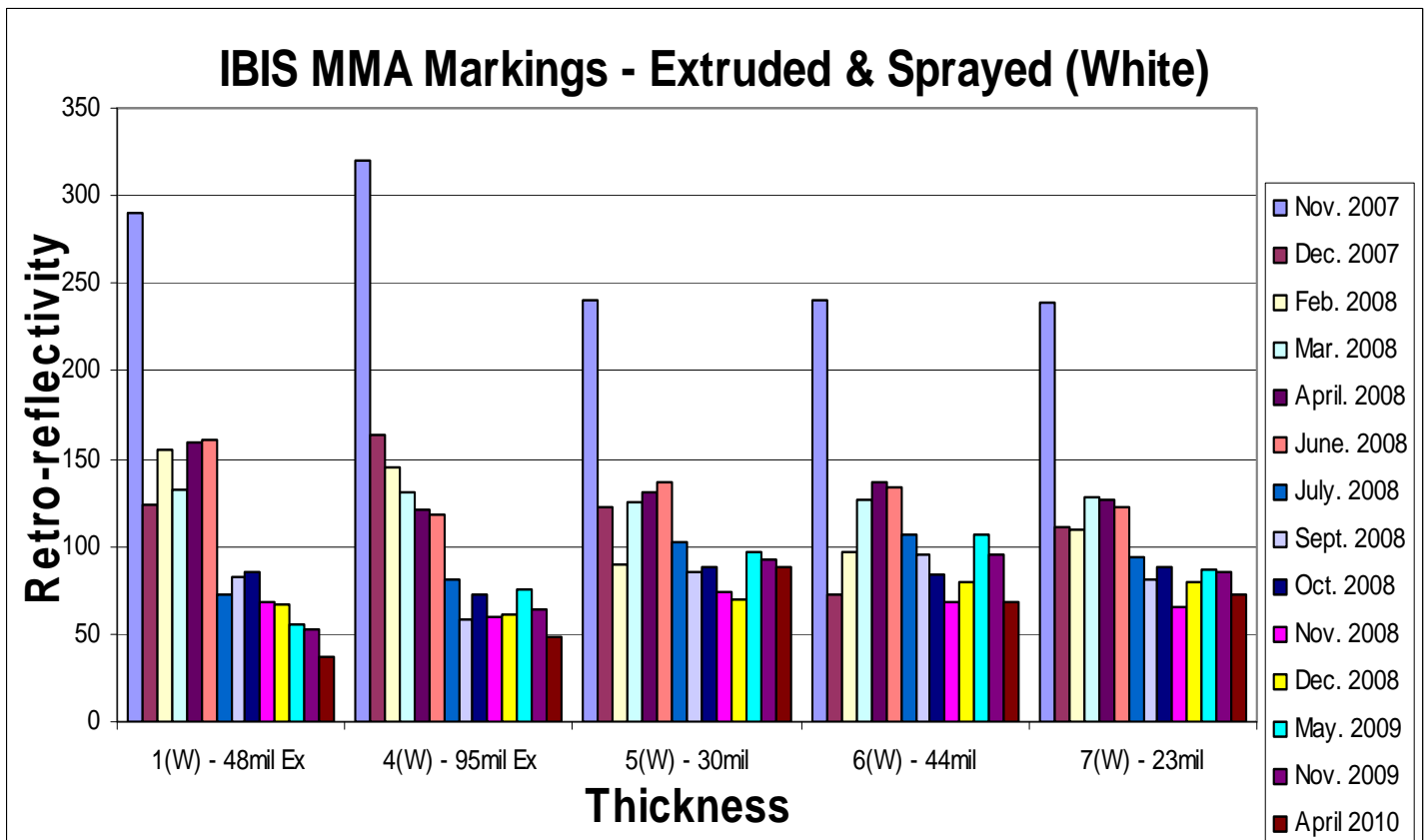


Chart 2



Yellow MMA Durable Markings (Extruded and sprayed), Surface applied

Chart 3

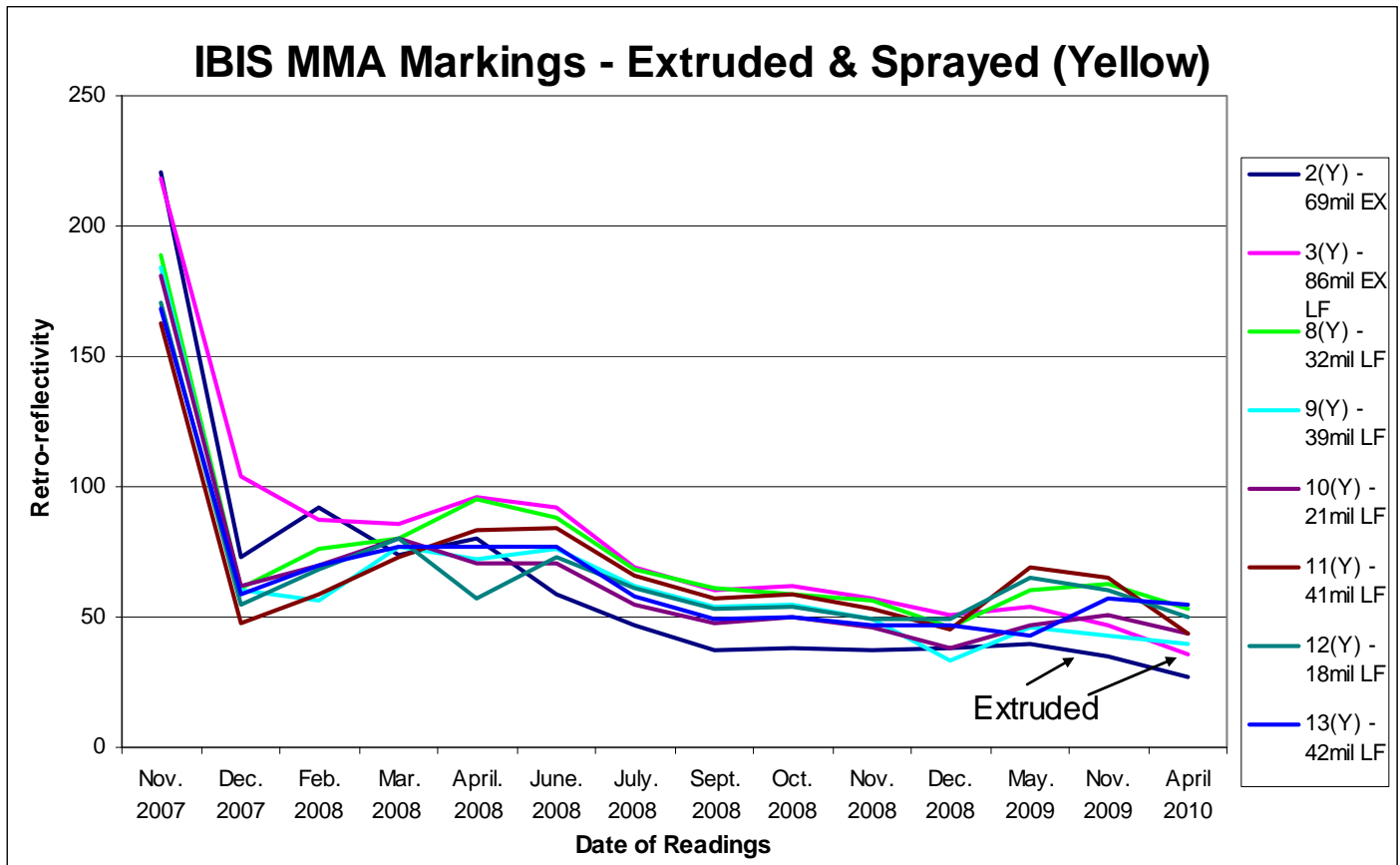


Chart 4

