

# CRAFCO Mastic One – Joint Sealant



- Hot applied, pourable, self-adhesive
- Aggregate filled
  - some load bearing
  - Skid resistant
- Flexible Polymer Modified Mastic
- 100% density w/no compaction
- Bit or Conc. Pavement Repairs

# MnDOT Destination Innovation Funding

## MASTIC ONE Product

**\$60,000 \$0.71/lb with Tax 85,000 lbs**

## Crafco Melter / Patcher

**Rented at \$7400/month for two units**

**District 3 BARC Funds**

## Applied Product

**TH 12 Transverse Cracks Montrose (1 mile)**

**TH 12 Longitudinal @ Fog/Centerline (5 mi)**

**TH 169 SB Longitudinal Cracks (8 miles)**

**West side Mille Lacs Lake**



## **CRAFCO MASTIC ONE**

### **Some Manufacture's Recommendations:**

- **Filling & Leveling wide Transverse & Longitudinal cracks**
- **Application intended for larger cracks ( > 1+”)**
- **Apply to clean, dry, sound surfaces**
- **Apply 6” beyond distressed area**



- Product dispensed via Crafcoc Melter / Patcher
- Heated to 400 degrees, took 1+ hours to heat
- Internally mixed with paddles to keep aggregate suspended
- Good production is 3 hoppers / day

## TH 12 in Montrose



### Transverse Cupping

- Constructed 1997
- Saw & Seal Joints
- Chip Seal 2004
- Mastic 2011
- Some Rutting
- Future MicroSurface ('13?)

## TH 12 in Montrose



## TH 12 in Montrose



**Box screed pulled from Center of Lanes**

- **Better Distribution**
- **Less labor**
- **Open to traffic - ½ hr after application**

**June 2011**

## TH 12 in Waverly



## TH 12 in Waverly



### Longitudinal Cracks

- **Dispensing**
  - Driver aims to follow crack
  - Crack under patcher (crew has limited visibility)
  - Difficult control gate & correct amount material
- **Less labor to screed into cracks**

## TH 12 in Waverly



**Additional Aggregate for Friction & Motorcyclists**

## TH 12 in Waverly



**Finished Application**

**Open to Traffic in ½ hour**

## TH 12 btwn Montrose & Delano



High Expectations !!!

## TH 12 btwn Montrose & Delano



- Material too cold
- Poor flow, left high
- Pavement Temp >40 degrees
- Performance over Winter needs to be reviewed

## TH 169 West side of Mille Lacs Lake



**8.5 Miles (Mostly Longitudinal Cracks)**

**Est. Cost \$8000/mile (both directions)**

**Product & Melting Pot Rentals (2 units/month)**

# TH 169 West side of Mille Lacs Lake



Mid-Aug. 2011

## Striping relative to Mastic One Application- after one Winter



Latex Striping on Aged Pavement

Latex Striping over Mastic One Repair

# Improvements Needs & Ideas

- **Reduce product waste**
  - Better applicators (screeds, mini melter, pour pots)
  - Improved dispensing (gate control, follow cracks)
  - Smaller hoppers, more flexibility, less heat & prep. time

**Crafco Mini Melter 30**  
Part Number 57600



The Mini Melter 30 (air jacketed hand agitated) is a 30 gallon sealant melter and dispenser that can be used in conjunction with the Mini Melter 10 or the Crafco Pour Pot with Wheels.

The Mini Melter 10 is a hand agitated, 10 gallon melter/applicator, that will melt sealant for application in approximately twenty minutes. The wheeled melter easily follows random cracks for efficient crack sealing.

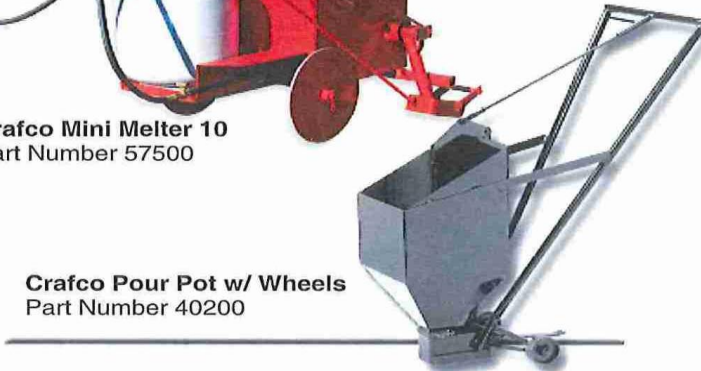
The Wheeled Pour Pot is used to apply a uniform band of sealant to a crack or joint. Wheeled for ease of use and ideally used with the Mini Melter 30.

The Mini Melter System is an ideal optional "add on" to the Crafco Super SealCoater.

To double sealant life, rout cracks prior to sealing with the Crafco Pavement Cutter.

**Crafco Mini Melter 10**  
Part Number 57500

**Crafco Pour Pot w/ Wheels**  
Part Number 40200



# Improvements Needs & Ideas

- **Reduce labor**
- **Create application flexibility - Need for small isolated locations**
- **Purchase Own Melters – high rental costs / month**
  - Units are \$32,000 (used) or New (\$48,000)
- **Try Mastic Material without Aggregate**
  - Apply aggregate on top of application (price is 1/3 less)
- **Try Other Materials:**
  - Deery Brand Repair Mastics
  - Crafft Poly Patch (larger Aggregate & Patches) same price as Mastic One

## Improvements Needs & Ideas



Flexibility of Shoot, less splash  
Bigger hopper screed

## CITY OF BAXTER

### CRAFCO – Poly Patch Material

- Intended for larger cracks (larger aggregate)
- Similar cost to Crafcoc Mastic One



**After one winter maint, no damage**

**March 2012**

# MASTIC ONE - Long-Term Performance Example



# District 3 Continued Use

## MnDOT 3B Maint. Area

- 2011 & 2012 = \$120,000 - \$240,000
- I-94 Concrete West of Monticello
- TH 25 Buffalo to Monticello
- TH 65 Cambridge Bypass
- TH 12 Corridor (Cokato – Delano)
- TH 23 in Milaca Near Jct. TH 169

## MnDOT 3A Maint. Area

- 2012 = \$40,000
- TH 169 West side Mille Lacs Lake



## Additional Resources

### WEBSITES

**Supplier (material & equipment)**

<http://www.brockwhite.com/highway-sealants-rehab>

**Manufacturer**

[http://www.crafco.com/Patching%20Products/Patching\\_Products.htm](http://www.crafco.com/Patching%20Products/Patching_Products.htm)

### MnDOT District 3

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