



# Rubber Smart Surface LLC

*A Green Solutions - Recycled Rubber Products Company*



**2016 COLORADO WASTE TIRE  
MARKET DEVELOPMENT  
CONFERENCE  
JUNE 22- 23  
DENVER COLORADO**

## Rubber Smart

Privately held  
California company

Based in Marin County  
Novato CA

RS develops, designs  
and markets a variety of  
recycled rubber  
products

Principals involved in  
rubber surfacing over 15  
years

Product manufactured  
under exclusive license  
for the pre packaged  
pour in place rubber  
surfacing product





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**PLAYGROUND  
SURFACING  
REPAIRS MADE EASY**



# The **SMART SURFACE** Product

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1. Proprietary pre mixed ready to install kit
2. Packaged in easy to use 6.5 gallon plastic pails
3. Your pail is the mixer – all ingredients included
4. High tensile strength and durability( ASTM 412)
5. Cures in one hour – back in service quickly
6. Laboratory developed and tested
- 7. 100% recycled rubber (green product)**
8. Manufactured in a factory controlled setting



# Our Raw Materials - Scrap Tires



# Scrap Tires \* Rubber Crumb \* Smart Surface\* Playground Repair

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# Problem - Solution Based

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- **Problem - Pour in Place Rubberized surfacing in Playgrounds has provided safety for school children for decades. However aging surfacing has resulted in tears and degradation**



- **Solution- Smart Surface repair kit is a 6.5 gallon pail of colored high strength rubber resin (glue) & a special hardener**
- **There are approx. 50 million sq. Ft. of surfacing out of warranty in the US.**  
(Source NRPA)



# Case : Oakland School

## 600 pupil enrollment

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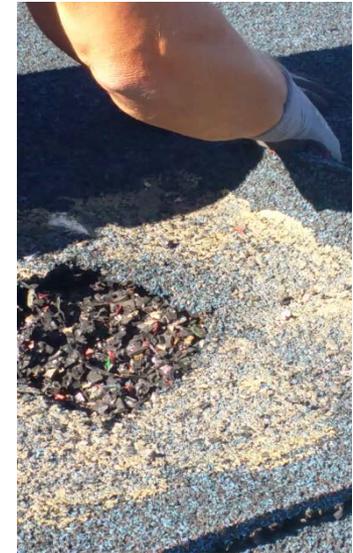


## PHASE ONE

Old Surface Removal  
and Preparation

Cut in a distinct  
shape

Open Smart Pail





## PHASE TWO

Arrange Hand tools

Pour small amount  
of binder into cup

PRIME EDGE of  
shape with BINDER  
(GLUE)

Mix RUBBER AND  
GLUE

Wet out all particles  
( no dry spots)

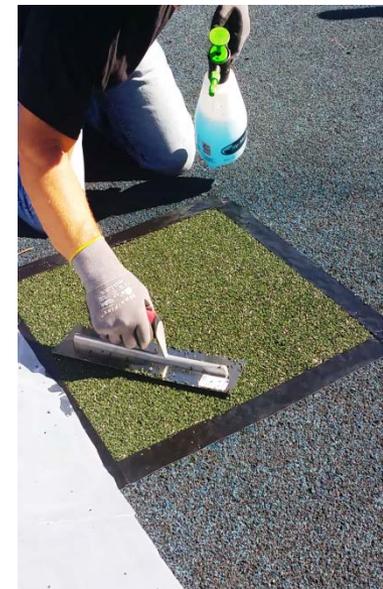
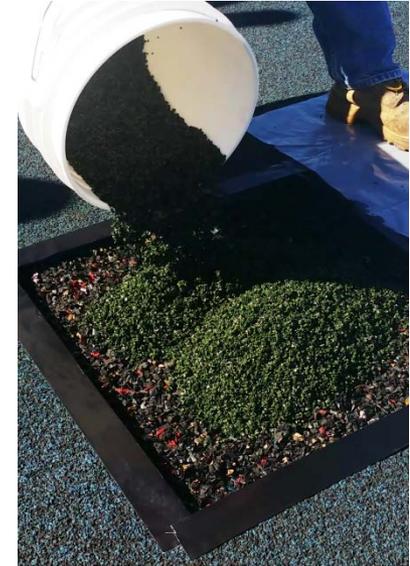




### PHASE THREE

Add Hardener ( quick cure) mix again

Pour, trowel , level





FINAL

Smart cured in  
approx 58 minutes  
on this project



# Additional notes

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**OAKLAND REPAIR WAS 4 SQ. FT.  
SMART PAIL COVERS 12 SQ. FT.  
CURING SPEED IS ENHANCED BY HEAT &  
HUMIDITY**



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## **CIVIL ENGINEERING MANHOLE REHABILITATION**

# The Product



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**POTHLES**



**ASPHALT  
RUTS & CRACKS**



# Scrap Tires \* Rubber Crumb \* Smart Surface\* Manholes

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# Problem - Solution Based

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- Problem –Manholes for decades have caused serious problems in road construction due to the perimeter edge material concrete or asphalt that deteriorates dramatically over time with heavy prolonged traffic usage which causing shifting in the manhole collar and riser



- Solution-By applying a rubber around the manhole perimeter the rubber will provide an absorbent ring that maintains the integrity of the manhole keeping it level as well as reducing noise.
- There are approx 20 million manholes in the US. (Source AWWA)



# Winter Scenario for Potholes

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## Warmer weather means rough roads ahead

After an unusually severe winter, many parts of the country are experiencing an extraordinary plague of potholes.

**1** The stress of normal traffic, as well as snowplows, can create small cracks in the road surface.

**2** Freezing and thawing of meltwater expand the cracks, allowing water to reach the subsurface.

**3** As the water freezes, it expands and pushes the pavement up and the subsurface down.

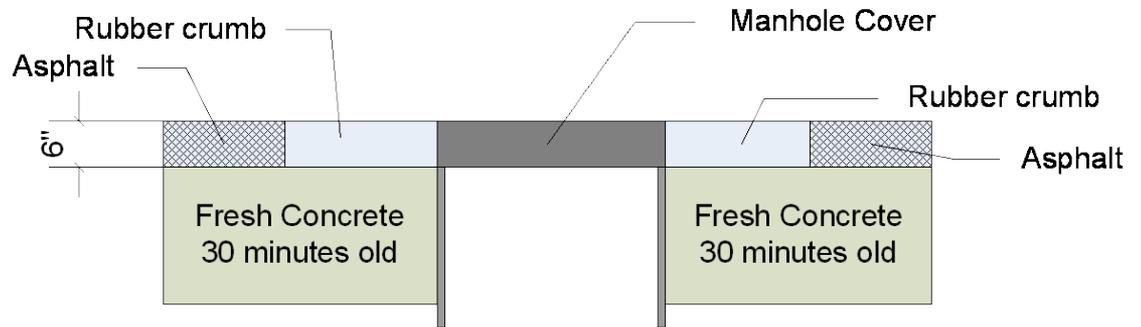
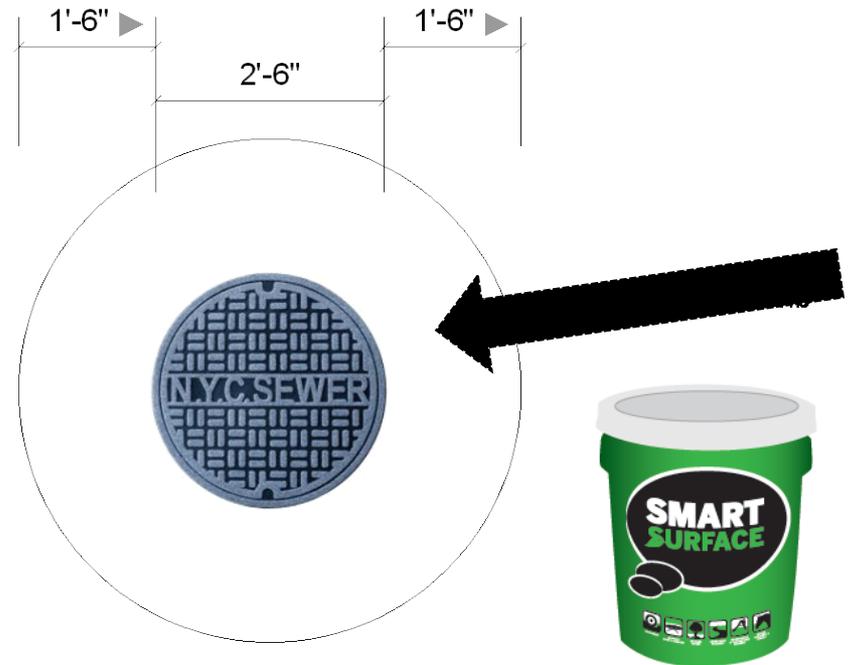
**4** When the ice melts, a cavity is left under the pavement, which collapses when vehicles drive over it. A pothole is born.

Sources: Michigan Department of Transportation, Chicago Department of Transportation

By Sam Ward, USA TODAY



1. Apply primer on quickrete
2. Pour directly into void
3. Trowel and level to riser height
4. Mist lightly
5. Cover with plastic to accelerate cure



Manhole covers come in 30" 36"  
and 42" sizes

# Arizona Project - Chandler

3 years 20,000 vehicles per day

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Arizona Project 2  
Peoria Transfer Station



**Manhole located at  
Transfer Station Peoria Arizona**

# Testimonial Letter

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## City of Peoria

8401 West Monroe Street, Peoria, Arizona 85345

June 18, 2002

### To Whom It May Concern:

In January, 1999, Mark Maroney with Applied Rubber Surfacing Inc. installed a rubberized coating as a test case to replace broken concrete around existing manholes. The total installation time was less than 30 minutes including the removal of the old concrete and the preparation of the site.

One of the test cases was placed in the main entrance of the City of Peoria Municipal operations yard. The area has heavy truck and equipment traffic with all of the City vehicles driving over this manhole several times per day each.

As of June 18, 2002, the product is still like new. It shows no signs of visible deterioration from the weather or the traffic.

If you have any questions or need further information, feel free to call me at 623-773-7726. City of Peoria Letter.pdf - Adobe Acrobat

# Arizona Project 3

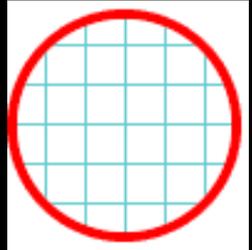
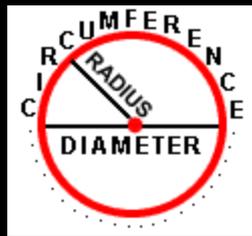
## Over lay projects and street repair adjustment process

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**METHOD-** ADJUSTMENT IS THE *LOWERING* OF ALL VALVE BOXES (REMOVING THEM AND SETTING A STEEL PLATE BELOW GRADE TO COVER THE HOLE, PRIOR TO THE STREET CONSTRUCTION AND RAISING- BRINGING MANHOLES AND VALVE BOXES BACK TO THE NEW FINISH GRADE - AT THE END OF THE PROJECT.

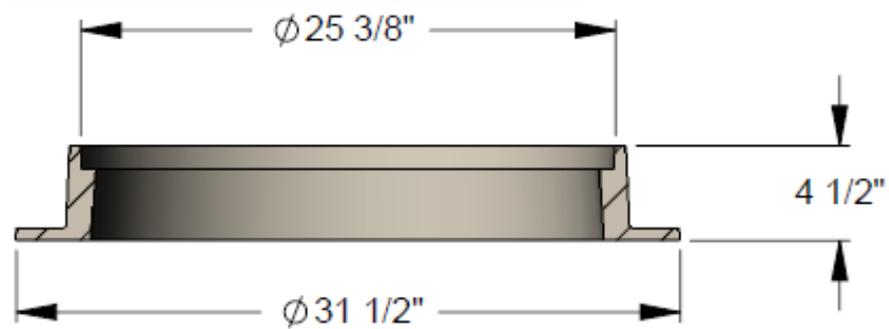
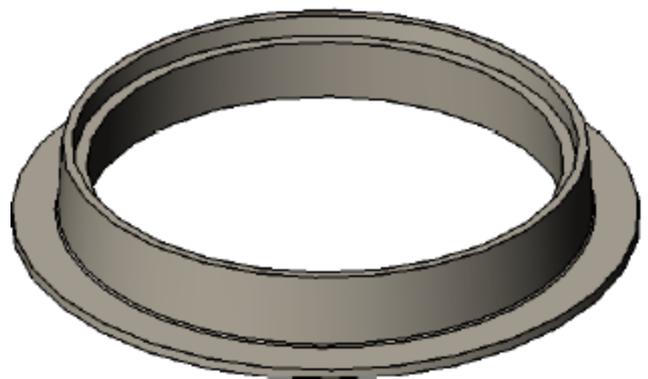
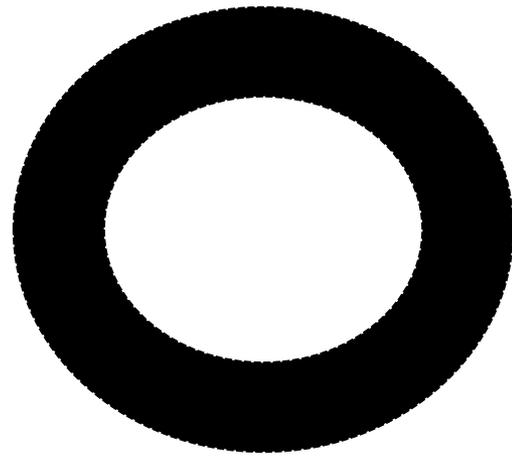
RECYCLED RUBBER WAS USED IN THE FINAL RAISING PHASE BY FLOATING IN THE TOP 1" OF RUBBER OVER A CONCRETE BASE.

THIS APPROACH HAS PROVEN DURING OUR TESTING TO BE SUCCESSFUL IN ELIMINATING THE CRACKING AND BREAKING OF THE CONCRETE OR ASPHALT AROUND THE OPENINGS



$$A = \pi \cdot r^2$$

25.3/8" with a 12" diameter circumference would require 1 1/2 pails of product at 1" depth



SECTION VIEW

1. Municipal paving contracts are awarded annually to paving companies

2. Road patching repairs piggyback with the awarded paving contract

3. Contractors want cities and utilities to make the patched areas larger to eliminate handwork by their crews and facilitate using paving equipment

4. The onus is placed on cities and utilities to dig out larger areas to patch increasing labor

Smart Surface now allows the cities to do their own patching reducing utility / municipal labor and also increase paving efficiencies



# Water District





# Contact info

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