"Providing Road Maintenance Solutions for over 70 Years!!"

Rubberized Crack Sealing

What is Crack Sealing

Sealing of cracks in the roadway with a flexible polymer modified asphalt.

The least expensive, most cost effective method of preventive maintenance available.

This process will prevent water damage to the pavement subbase, which will extend the life of your roadways.

We will go over the process, equipment, and different materials used in crack sealing.

Features & Benefits

Sealing will prevent moisture from entering the different pavement layers and the sub base.

It will prevent base deterioration and depressed cracks and potholes.

Crack sealing is a very fast moving construction practice, many miles of roadway can be sealed in one day.

Low disruption of traffic

Material sets up quickly so traffic can return to pavement in 10-15 minutes.

Where do you start with your crack sealing program?

We get this question a lot, especially with customers that are just getting started.

1. Start with your newest roads first. Let get the biggest bang for our buck and seal cracks and prevent moisture infiltration on roads that are 1-2 years old. New construction and overlays are the prime candidates. There won't be many cracks but the few that are there will get sealed up and can extend the life of the road by 3-10 years on the end of its life cycle. We recommend that they return to fill any new cracks every 2-3 years
2. High Volume roads. Take your newest high volume roads and go after them next. These are also good candidates because if we don't get them sealed we will be back to fix potholes.
3. Lower volume or roads that are in bad shape. We save the worst for last and sometimes you have to seal them just to keep them together. This is usually a very poor investment/ throwing good money at bad.

Equipment Required

Air compressor we recommend 100PSI @100 CFM
Oil Jacketed kettle
Crack Router

Pour pot/ Banding machine
Hot Air Lance
Squeegee
Paint Roller for using TP
Hand Sprayer for De tack materials
Protective Clothing for operators
First aid kit with burn kit
Traffic Control Equipment.

The Process

Clean cracks with compressed air at a minimum pressure of 100 PSI.

Damp or cold conditions (below 40 degrees F) should be dried with a heat lance.

Apply sealant at the temperature recommended by the manufacturer.

Strike off excess material flush with the roadway

Optimum Crack Conditions

40° Pavement Temperatures. This is the optimum temperature for crack width. Not at it's widest but not at it's tightest. If you seal them when it's colder, when the road heats up and the crack closes you can get a hump that the snow plows can rip out.

Dry, clean of sand, vegetation and debris. This is the number one cause of sealant bonding issues.

Must have a reservoir for the sealant to achieve proper stretch ¾"x ¾" with 3"-4" over band optimum.

Route and Fill

Best performance for crack sealing

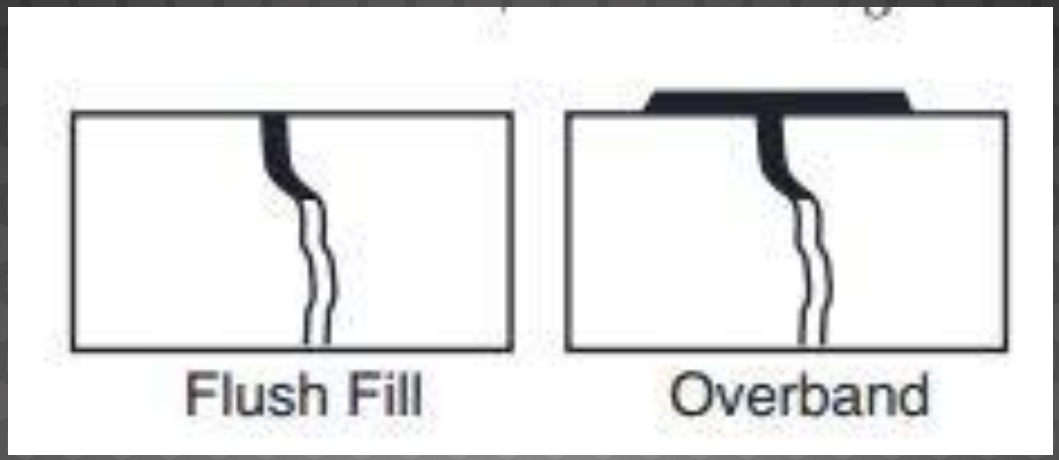
- Creation of uniform crack reservoir
- Creates smooth walls within the crack for better bonding
- ¾ inch by ¾ inch reservoir

Higher initial Cost / Manpower

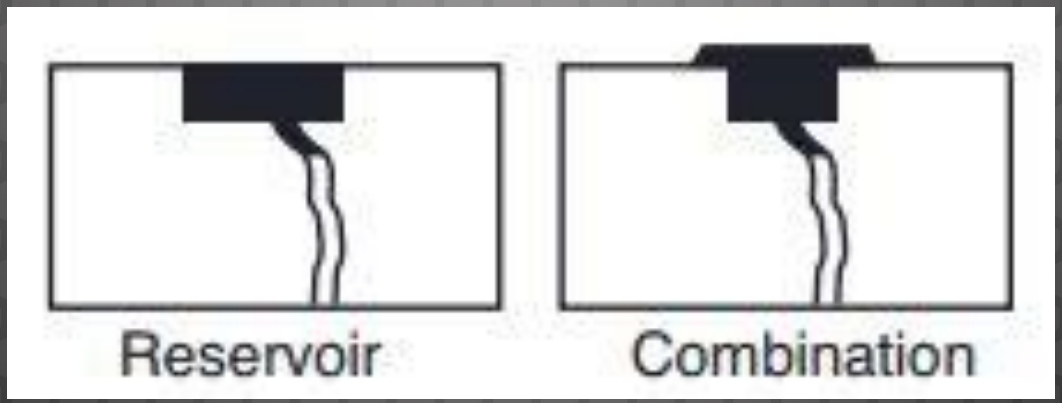
Blow and Go

1. Cracks must be wide enough to create a reservoir
2. Much faster/ Higher production
3. Potential for more failure due to dirt and moisture.
4. Less Manpower. No need for router operator.
5. Good process for customers that have more work than time or budget and also have bad cracking in roads.
6. Sealant adheres better to a jagged edge if cleaned properly.
7. Recommend 100PSI @ 100 CFM Compressor and or Heat lance

Flush Fill and Over band with Blow and Go



Reservoir Fill and Over band with Route and Seal



Heat Lance By Lab MFG

Types of Cracks

Transverse/Reflective Cracks:
Cross either from shoulder to shoulder or from shoulder to centerline. Caused by inability to redistribute stresses that occur along pavements' width and length as temperature increases.

Longitudinal Cracks:
Run the length of the pavement, roughly parallel to centerline.
Caused by inability to redistribute stresses that occur along pavement's width and length as temperature increases.
Can be caused by cold joint on the center line and fog line when paving.

Alligator/Map Cracks:
Pattern that resembles alligator skin or road map.
Caused by serious deterioration of road; cannot be saved by crack sealing.

Tools Of the Trade

Worksite Safety

Operators should always wear protective clothing such as long pants, long sleeves, eye protection and work boots. Please no shorts or flip flops!!!!

Make sure that the operators are trained to operate the equipment.

Have a first aid kit with a burn kit.

Have a few gallons of distilled water to cool asphalt burn.

A Little bit of common sense goes a lone way.

Materials

- **All sealants have 3 main components.**
  - **Asphalt**
  - **Polymer**
  - **Aggregate filler like lime stone.**
- **Most common crack sealant used nation wide is 3405. Has moderate stretch and good bonding.**
- **Low Modulus- Very soft but has excellent stretch(up to 200%). Not recommended for slow traffic areas, in town applications, parking lots. Does not bond as well due to less asphalt.**
- **Crumb rubber- Good bond but does not stretch as much and can crack in clod weather but will reseal itself in higher temps. Has ground tire rubber in it. Tends to be less expensive.**
- **Direct Fire- Can be heated in a direct fired kettle.**

Rubberized Sealant Equipment Requirements

- Kettle must have automatic temperature controls.
- Must have indirect heating such as oil jacket.
- Must have constant agitation.

Sealant Manufactures

- Crafco
- Deery
- McAsphalt
- Right Point
- Maxwell Products
- Koch
- Medows
- Sealmaster/PT Products

OJK-H
STEPP Oil Jacketed Kettle

OJK-H ASPHALT CRACK SEALER

For Melting and Applying Rubberized Crack Sealing Materials

Available in 185, 275, & 400 Gallon

Ultra-lite Hose and Wand System
Heated Over Head Boom
Exact Flow Wand control

AKC Advanced Kettle Controls
Digital Engine Management System
Dual safety Loading Chutes

Kubota Diesel Engine
Submerged removal pump
Noise Reducing Engine Enclosure

Optional 100 CFM Rotary Screw Compressor
Optional Auto Loader Full Flow Heat Exchanger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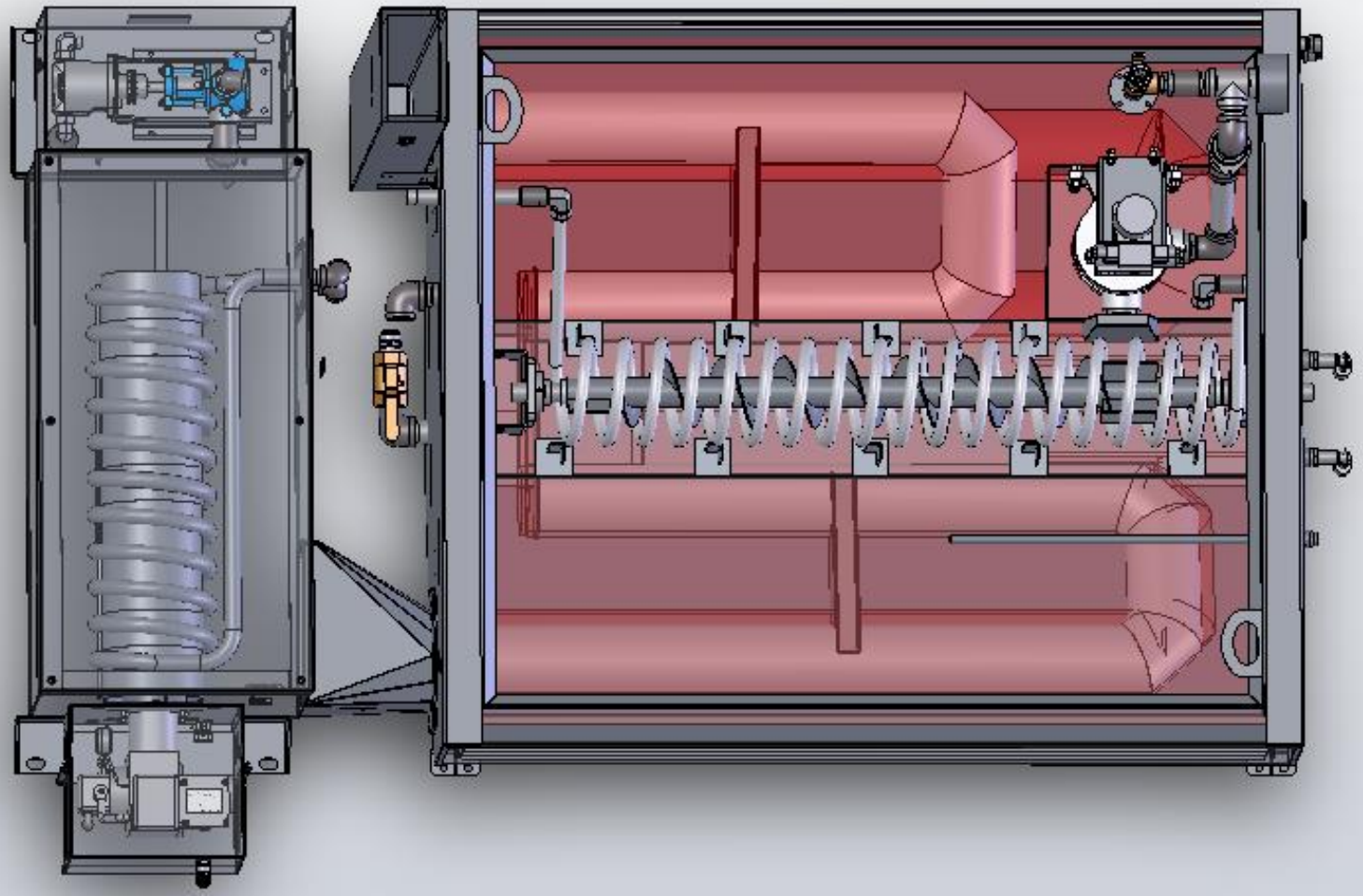
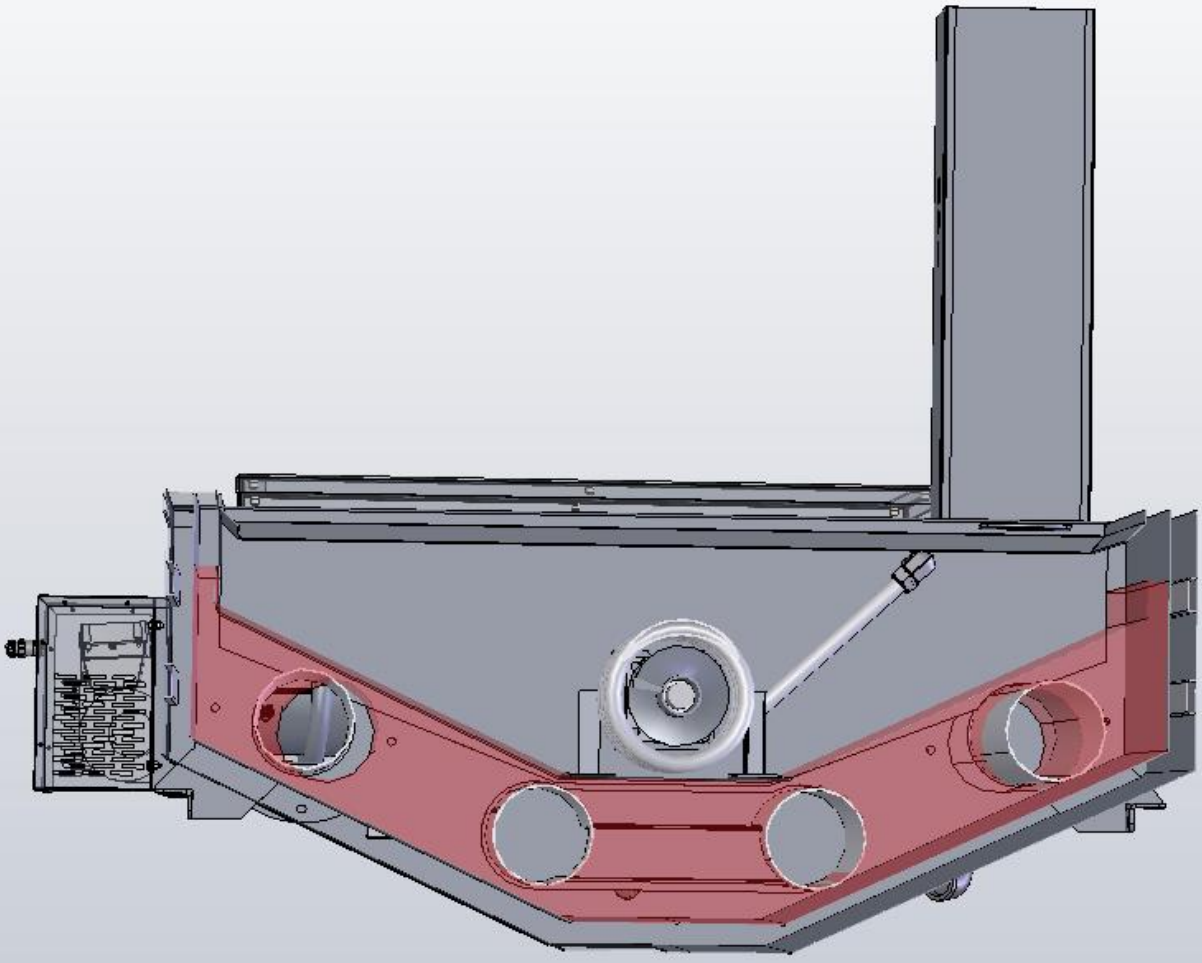
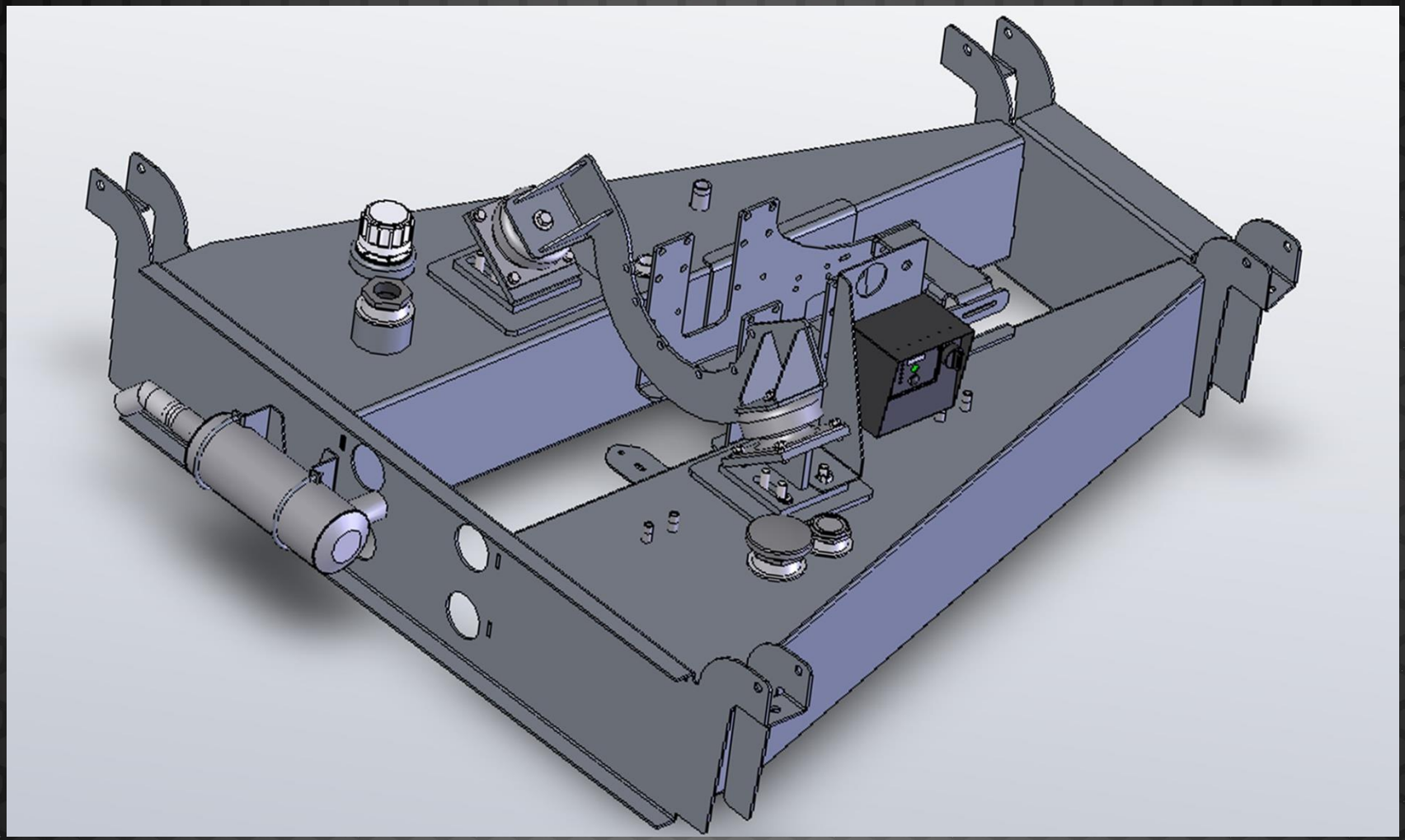
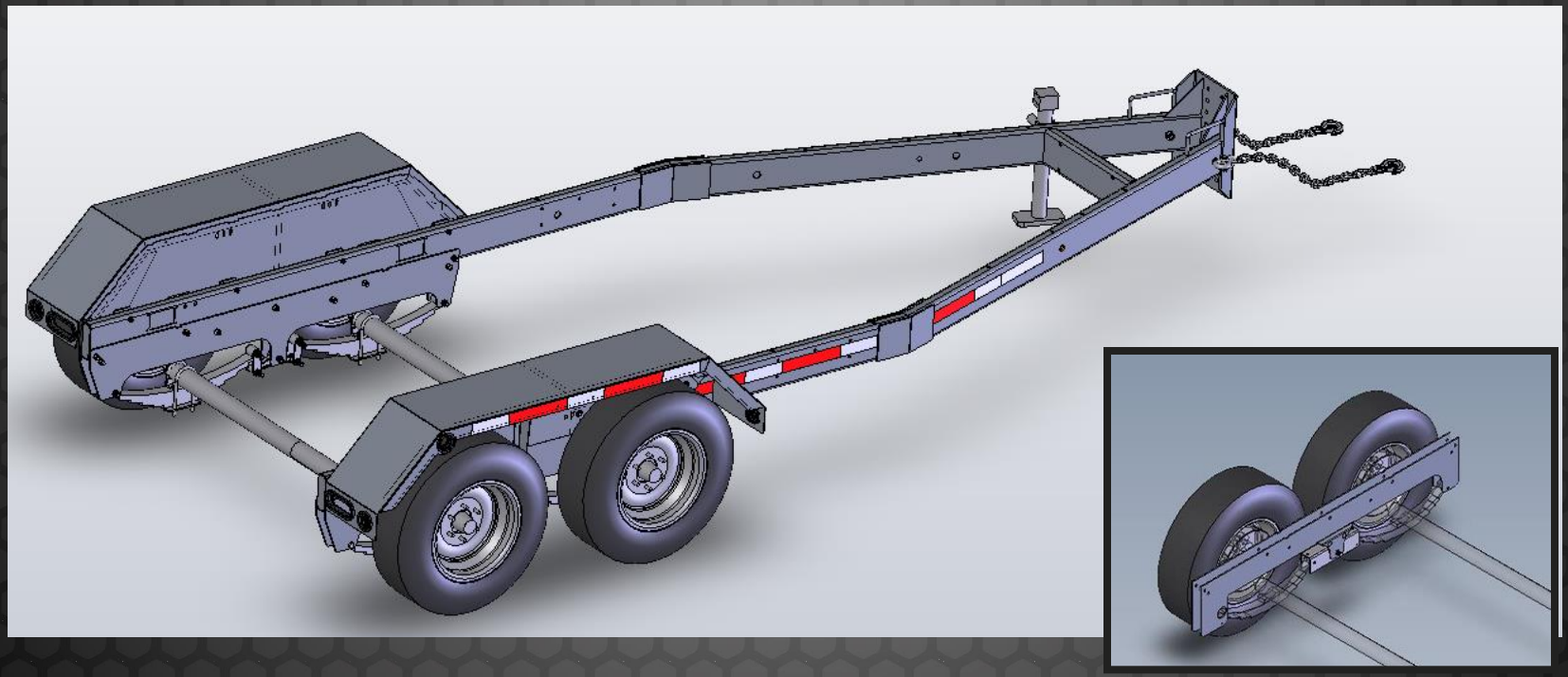






MTF Frame System with Shackle Simplicity

The Modular Tubular Frame (MTF) system is truly the foundation of our units. Our MTF frame offers flexibility, maintainability, and extreme reliability. Our bolt-on module system allows for components and options to be bolted on, allowing flexibility in your configuration. The MTF frame also allows us to use our one-piece, bolt-on shackle system, "Shackle Simplicity". This true tracking shackle system is 250% more heavy duty than anything else on the market. Our MTF frame with "Shackle Simplicity" is just another example of our industry leading technologies and designs.

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OJK 275


GEHL
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SMCI
STEPP MFG CO INC
OJK-185
OJK-185


OJK-1
Radial King
AXEL

Stepp AKC Advanced Kettle Controls

The OJK-H series of crack sealing kettles now boasts an all-in-one PLC CAN buss control system. The AKC controller monitors and controls all burner functions, the heated hose, pumping and agitation controls, kettle interlock safety systems, autoloader controls and operations, auger safety shutdown, pump hours, and diagnostics for the burner control system. The AKC integrates all burner and hydraulic controls into a simple, easy-to-use control package.


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OJK-185


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OJK-185


POWER
NOTICE
Read instructions before operating
Oil
321 Deg F
Set Point 390
Prod.
286 °F
Set Point 305
Wand
148 Deg F
Set Point 300
Autoloader
Manual
Auto
Pump (Speed Adjust)
Oil Temp
Wand Temp
Prod Temp
ok
BURNER ON/OFF
PUMP FWD
AGITATOR FWD
LOAD ON/OFF
STROBE ON/OFF
PUMP SPEED
WAND ON/OFF
PUMP REV
AGITATOR REV

OJK-V
STEPP Oil Jacketed Kettle

OJK-V ASPHALT CRACK SEALER
For Melting and Applying Rubberized Crack Sealing Materials

Available in 75 and 125 Gallon

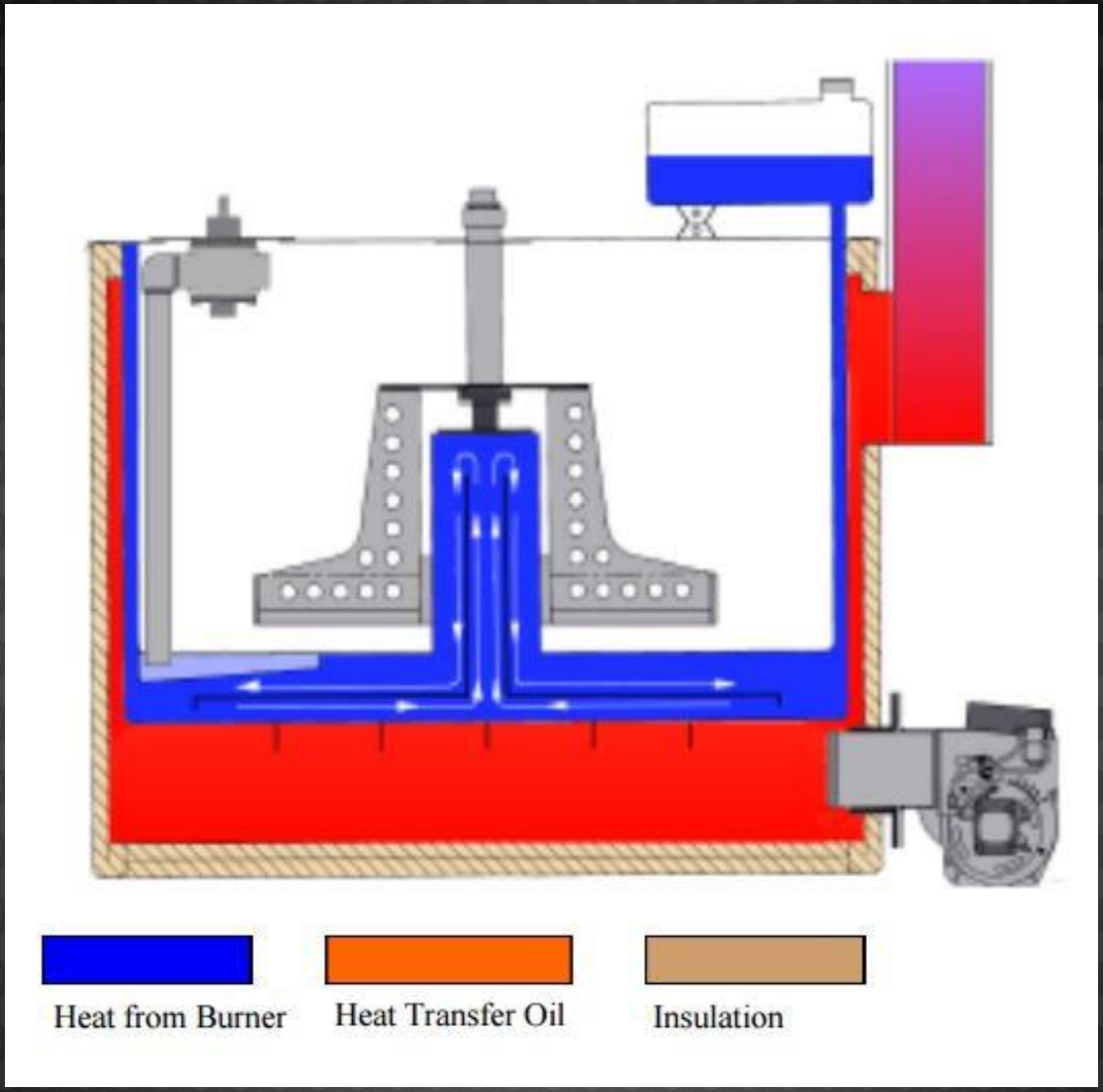
Ultra-lite Hose and Wand System
Heated Over Head Boom

AKC Advanced Kettle Controls
Digital Engine Management System

Kubota Diesel Engine
Submerged removal pump
Noise Reducing Engine Enclosure

Optional 100 CFM Rotary Screw Compressor
Optional Auto Loader


STEPP MFG
OJK 125
ASPHALT CRACKSEALER


Heat from Burner
Heat Transfer Oil
Insulation


STEPP MFG
OJK 125
ASPHALT CRACKSEALER

WANDS SHOES FOR CRACK SEALING

Wand Shoes for standard ¼" crack sealing wands

Part # 204095 5/16 flat steel ¼ straight
⅜" wide flat nozzle typically used for applying sealer into sawed cuts in concrete or asphalt. Steel construction with ¼" NPT Threads.
List Price $46.99

Part # 204047 (2½" steel disc ¼ x 45°)
Part # 204094 (4" steel disc ¼ x 45°)
2½" or 4" diameter concaved disc with turned up edge. Steel construction with ¼" NPT Threads.
List Price PN 204047 $28.88
List Price PN 204094 $32.29

Part # 204010 (2½" steel "U" ¼ x 45°)
"U" shaped shoe 2½" wide gives you a narrow over-band and eliminates the need for a second squeegee operation. Steel construction with ¼" NPT Threads.
List Price $28.88

Part # 204035 (4" steel "U" ¼ x 45°)
"U" shaped shoe 4" wide gives you a medium width over-band and eliminates the need for a second squeegee operation. Steel construction with ¼" NPT Threads.
List Price $28.88

Part # 204096 (4" alum. "U" ¼ x 45°)
Lightweight aluminum for less operator fatigue. Otherwise same as part # 204035. Aluminum construction with ¼" NPT Threads.
List Price $34.60

Part # 204093 (4" alum "U" swivel ¼ x 45°)
"U" shaped shoe 4" wide with built-in swivel constructed of lightweight aluminum for less operator fatigue and ease of operation. Grease fitting on swivel for long life. All aluminum construction with ¼" NPT Threads. List Price $59.59

Wand Shoes for ⅜" Ultra-Lite crack sealing wands

Part # 204098 (4" steel "U" ¼ x 45°)
Designed with an altered approach angle specifically for use with the Ultra-Lite series wand. "U" shaped shoe 4" wide gives you a medium width over-band and eliminates the need for a second squeegee operation. Steel construction with ¼" NPT Threads.
List Price $28.88

Part # 204099 (4" alum. "U" ¼ x 45°)
Same as part # 204098 except constructed of lightweight aluminum to compliment the Ultra-Lite wand for the ultimate in reducing operator fatigue. All aluminum construction with ¼" NPT Threads.
List Price $34.60

Part # 204053 (4" steel round ¼ x adjustable")
Adjustable approach angle for customized operator comfort. 4" circular shoe with turned up edge gives you a medium width over-band and eliminates the need for a second squeegee operation. Steel construction with ¼" NPT Threads. Note: Photo is slightly different than actual part.
List Price $46.15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