



When and Where to Use IR Repair



IR Repair

Understanding When and Where You Can Use IR Repair

We Regularly Get Asked When is Infrared Repair a Viable Option, The Short Answer...It Depends

Unfortunately for contractors no two asphalt repairs are the same. Common factors like asphalt composition, weather, base condition, and the age of the asphalt all play into evaluating what type of repair will be most suitable for a repair. Evaluating repairs isn't necessarily an exact science but rather comes with experience. Regardless of if you are a paver or not it is extremely important to understand how asphalt is installed and what the necessary steps are to help maintain that asphalt once it is installed.

What Causes Asphalt Deterioration?

Water

Water is asphalt's worst enemy. The freeze thaw cycle in the north causes expansion and contracting causing asphalt to heave. In the south rain will seep through asphalt cracks and wash away base material.

Traffic

Consistent heavy traffic will cause pavement to prematurely fail especially if it was not applied thick enough in the first place.

Oxidization

Oxidization from the sun causes the asphaltines to evaporate from the pavement.

Lack of Maintenance

Unfortunately asphalt driveways, and commercial lots are something property owners hate spending money on. Often times the neglect it until it becomes to big of a problem to ignore.

Preventive & Corrective Maintenance

Preventive Maintenance

- Crack Sealing
- Sealcoating

Corrective Maintenance

- Pothole Repair
- Resurfacing



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Questions to Consider Before Infrared Repair

What is the depth of the repair?

With IR you will get about 1.5"-2" of penetration into the asphalt.

What caused the failure?

Is this a surface level repair caused by heavy traffic or a lack of maintenance? Or has the base failed?

What is the surrounding pavement like?

Is the surrounding pavement in decent shape? Or is there severe cracking and deterioration throughout?

Common IR Candidates



Sunken Utility Cuts



Oil Spots



Damage Around Storm Drains



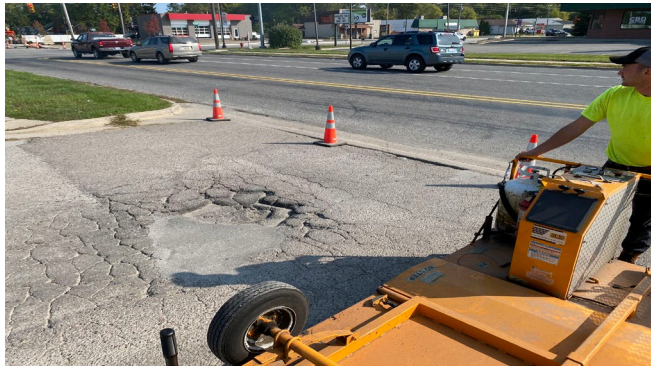
High Iron



Potholes



Bird Baths



Before
and
After's

Spiderweb/Alligated Cracking



Can You Infrared It?

Most of the time if an area is experiencing significant reflective cracking then chances are the base has failed. Most commercial paving jobs are laid in two 'lifts' normally a base layer is 1.5"-3" and the top layer concedes with the thickness of the base. Base failure can be caused by a couple different factors but most commonly moisture is getting down into the base and washing away the sand, and aggregate causing the top layer to sink in and eventually crack heavily.



If the Base Has Failed IR May Not Be The Best Option

Without completely removing the top layer of asphalt it is difficult to determine what condition the base is in. We recommend erring on the side of caution, meaning if you see sever cracking assume the base has failed and recommend to the customer a saw cut remove and replace that way you can reinstall/recompact new base material and then top with new asphalt.

Multiple Repairs

Joining Multiple Repairs

A single repair is easy right? But when it comes to joining multiple repairs back to back there is some obstacles that come along with that. You will still want to maintain your 2"-3" overlay between repairs and most importantly **CHECK YOUR GRADE** to make sure water will flow in the right direction and you aren't leaving any high/low spots.



Bad Example



Honest and Upfront

There will be times where you determine IR is not the best option for a repair, but the customer insists and usually uses the phrase "I am just trying to buy a year" or "can you fix to get me through winter" if that is the case then best honest and upfront and tell them you will do what you can but the repair are will inevitably fail again, most likely sooner than later.

Infrared in Colder Weather

Can You Do It?

Yes, you will obviously have to work a little faster but IR in colder weather is achievable and a key selling feature because you can offer a long-term repair during the winter while other contractors cannot.

Considerations

It WILL take longer to heat and you will have LESS time once you remove the IR machine to rework the area. If the repair cools too quickly prior to compaction, let the machine heat up the area for an additional 1-2 minutes before compaction.

Moisture

If you are heating over an area that is wet either from the snow or rain, it will take longer to heat because you are evaporating the moisture in the asphalt. It will also be more "smoke" than normal but the smoke is just the moisture evaporating and is not harmful.

Make IR Repair "Easy"

Material Selection

Source a quality "top coat" material. This means when you go to the plant ask for the finest mix they are making that day.

Common Names:

Driveway Mix

Sand Mix

Top Mix

Fine Mix

Normally each State DOT will also have a technical name for fine mix

Compaction

When it comes to compaction we normally give a good, better, best scenario. Good is a plate compactor, better is a single drum walk behind roller, and best is a ride on double drum roller. If you have a job where you know you are going to be doing 20+ heats at a single location, do yourself a favor a rent a double drum ride on roller for the day. Normally it will cost you less than \$500 and it will make your repairs look much better.

Process

At KM we consider ourselves "experts" in the infrared repair field. Although IR repair isn't rocket science there is an art that goes into it. Uses the available resources out there to learn everything you can about the process and follow the recommended process thoroughly and completely and your repairs should come out looking great.

[Watch The Step by Step Instructional Video](#)

Conclusion

Can You Infrared It?

Unfortunately, there isn't a definitive answer as to when and when you can not perform an IR repair. There are a handful of major factors and multiple other smaller factors that will determine whether an infrared repair is an applicable solution.

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