

FIELD GUIDE

for Airport Pavement Maintenance Recommendation Tool

Field Guide for Airport Pavement Maintenance Recommendation Tool

Prepared for

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Introduction

This field guide is intended to replicate the use of the web-based Airport Pavement Maintenance Recommendation Tool developed as part of the ACRP 09-11, *Pavement Maintenance Guidelines for General Aviation Airport Management*. The web-based tool has considerably more functionality than this document and can be accessed at (URL will go here). The guidebook, which describes the research used in this field guide, can be accessed at (URL will go here).

The treatment selection in this research represents the results of a questionnaire sent to experienced aviation personnel across the United States. The questions were developed to capture the decisions that experienced aviation managers at different sized airports and in different climatic zones would make on their facility if they had pavements in the conditions described in the questionnaire. The questionnaire pertained to runways only, but the results should also be applicable to taxiways and aprons.

How to Use This Guide

There are four steps that replicate the online version of this tool. The steps are:

1. Determine Airport Classification.
2. Choose Climatic Zone.
3. Identify Distress Types.
4. Determine Treatment.



Distress Identification

To use this field guide, accurate distress identification is critical. There are several good sources of airport distress identification manuals that can be used to supplement this field guide. These dedicated sources have excellent descriptions and photographs that are available in a pocket-sized field guide. The sources include the ASTM specification D5340 – 12, *Standard Test Method for Airport Pavement Condition Index Surveys* and the FAA Advisory Circular 150/5380-7B, *Airport Pavement Management Program (PMP)*. The manuals are available at the FAA Airports websites:

http://www.faa.gov/documentLibrary/media/Advisory_Circular/Asphalt-Surfaced-Airfields-Distress-Manual.pdf

http://www.faa.gov/documentLibrary/media/Advisory_Circular/Concrete-Surfaced-Airfields-Distress-Manual.pdf

Step 1. Determine Airport Classification

The FAA classifies airports in its National Plan of Integrated Airport Systems (NPIAS) according to the type of services provided. This is done to define which airports are eligible for Airport Improvement Program (AIP) funding. The first four categories (commercial service, primary, cargo service, and reliever) all have distinct descriptions of use type and quantitative measures to aid in classifications. The final category, general aviation, is simply defined as an airport that does not meet any of the other criteria.

Beginning in 2010, the FAA funded research to develop a classification system for this final category of airports. This work is summarized in the publication *General Aviation Airports: A National Asset*. The study assigned general aviation airports into the following sub-categories: National, Regional, Local, and Basic. The categories are intended to focus on the role of the airport in communities and the nation, and not necessarily on airport size and features. Table 1 shows a description of each category. With the 2010 study and a follow-up study, over 90 percent of the nearly 3,000 GA airports were successfully categorized (*General Aviation Airports: A National Asset*. Federal Aviation Administration, May 2012).

Select:

Basic

Local

Regional

National



Table 1. New Category Definitions of General Aviation Airports.
(General Aviation Airports: A National Asset. Federal Aviation Administration, May 2012)

Criteria Used to Define the New National Category (all numbers are annualized)	
1.	5,000+ instrument operations, 11+ based jets, 20+ international flights, or 500+ interstate departures, or
2.	10,000+ enplanements and at least 1 charter enplanement by a large certified air carrier; or
3.	500+ million pounds of landed cargo weight.
Criteria Used to Define the New Regional Category (all numbers are annualized)	
1.	Metropolitan Statistical Area (MSA) (Metro or Micro) and 10+ domestic flights over 500 miles, 1,000+ instrument operations, 1+ based jet, or 100+ based aircraft; or
2.	The airport is located in a metropolitan or micropolitan statistical area, and the airport meets the definition of commercial service.
Criteria Used to Define the New Local Category (all numbers are annualized)	
1.	10+ instrument operations and 15+ based aircraft; or
2.	2,500+ passenger enplanements.
Criteria Used to Define the New Basic Category (all numbers are annualized)	
1.	10+ based aircraft; or
2.	4+ based helicopters; or
3.	The airport is located 30+ miles from the nearest NPIAS airport; or
4.	The airport is identified and used by the U.S. Forest Service, or U.S. Marshals, or U.S. Customs and Border Protection (designated, international, or landing rights), or U.S. Postal Service (air stops), or has Essential Air Service; or
5.	The airport is a new or replacement facility activated after January 1, 2001; and
6.	Publicly owned or privately owned and designated as a reliever with a minimum of 90 based aircraft.

Step 2. Choose Climatic Zone

Another factor in the decision making process is the climate where the airport is located. There are different stresses, needs, and potentially maintenance treatments for an airport in the dry-cold areas versus the wet-warm areas. In dry areas, crack sealing can be less important than in wet areas. Similarly, cold areas have to plan for snow removal which would be rare in the warm areas. To account for these potential differences in treatments and timing of treatments, responses were classified according to the appropriate climate zone (Figure 1). These climatic zones were developed as part of the Long-Term Pavement Performance (LTPP) research.

Select:

Wet	Wet	Dry	Dry
Freeze	No Freeze	Freeze	No Freeze



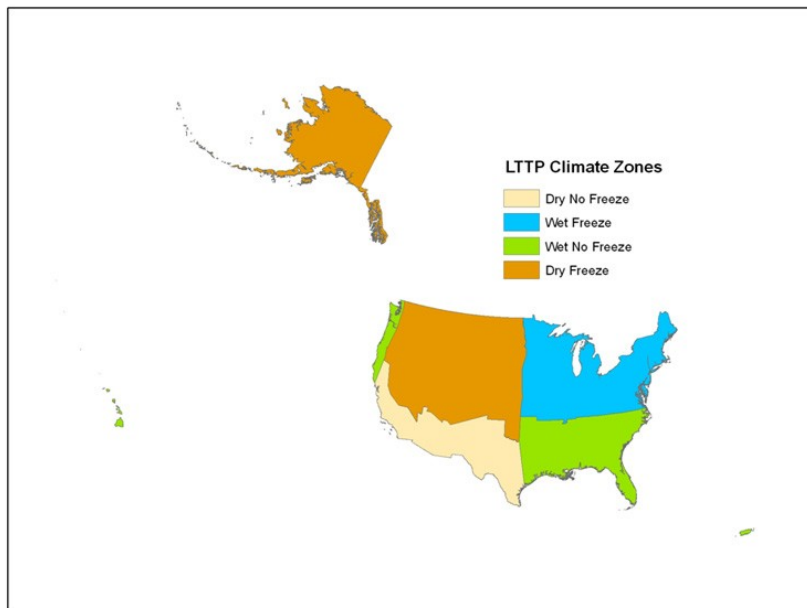


Figure 1. LTPP Climatic Zones.

(Federal Highway Administration, Office of Highway Policy Information, Field Manual, Chapter 4: DATA REQUIREMENTS AND SPECIFICATIONS, March 2014).

Step 3. Identify Distress Types

As noted earlier, a proper distress manual is the key to accurately identifying the types and severities of distresses. A portion of the FAA Advisory Circular 150/5380-7B, “Airport Pavement Management Program (PMP)” is reproduced and expanded upon below.

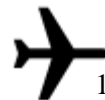
Identify the distress type/extent/severity that most closely matches the conditions at your facility. For example, if you have Transverse cracks, spaced 40 ft apart that are ½-inch wide, you would use the combination of “Transverse Cracks 50 Ft Apart, Medium Sev.” More than one distress type-severity-quantity can be selected, but the process of selecting a treatment (Step 4) must be completed for each combination.

Asphalt Pavement Distresses

Cracking

There are five types of cracking usually found on airport pavements.

Introduction	Step 3: Identify Distress Types	Asphalt Pavement Treatment Tables	Asphalt Maintenance Treatment Hierarchy	Concrete Pavement Treatment Tables	Concrete Maintenance Treatment Hierarchy
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Longitudinal Cracking (Non-PCC Joint Reflective)

Description

Longitudinal cracks are parallel to the pavement's center line or laydown direction. They may be caused by (1) a poorly constructed paving lane joint, (2) shrinkage of the AC surface due to low temperatures or hardening of the asphalt, or (3) a reflective crack caused by cracks beneath the surface course, including cracks in PCC slabs (but not at PCC joints). These types of cracks are not usually load associated. If the pavement is fragmented along a crack, the crack is said to be spalled.

Severity Levels

Low	Medium	High
Cracks have only light spalling (little or no FOD potential) or no spalling, and can be filled or non-filled. If non-filled, the cracks have a mean width of $\frac{1}{4}$ inch (6 mm) or less; filled cracks are of any width, but their filler material is in satisfactory condition.	One of the following conditions exists: (1) cracks are moderately spalled (some FOD potential) and can be either filled or non-filled of any width; (2) filled cracks are not spalled or are lightly spalled, but filler is in unsatisfactory condition; (3) non-filled cracks are not spalled or are only lightly spalled, but the mean crack width is greater than $\frac{1}{4}$ inch (6 mm), or (4) light random cracking exists near the crack or at the corners of intersecting cracks.	Cracks are severely spalled and pieces are loose or missing causing definite FOD potential. Cracks can be either filled or non-filled of any width.

Porous Friction Courses: Severity Levels

Low	Medium	High
Average raveled area around the crack is less than ¼ inch (6 mm) wide.	Average raveled area around the crack is between ¼ to 1 inch (6 to 25 mm) wide.	Average raveled area around the crack is greater than 1 inch (25 mm) wide.

A subset of longitudinal cracking is Edge Cracking, which is usually within 4 to 5 ft of the edge. This is often caused by volume changes along the edge of pavement caused by changes in the moisture content of the soil along the edge. The same severities apply as for longitudinal cracks.

For the purpose of treatment selection, Longitudinal and Transverse cracking are discussed separately. In the FAA Advisory Circular they are discussed together.

Transverse Cracking (Non-PCC Joint Reflective)

Description

Transverse cracks extend across the pavement at approximately right angles to the pavement's center line or direction of laydown. They may be caused by (1) a poorly constructed paving lane joint, (2) shrinkage of the AC surface due to low temperatures or hardening of the asphalt, or (3) a reflective crack caused by cracks beneath the surface course, including cracks in PCC slabs (but not at PCC joints). They may be caused by (2) or (3). These types of cracks are not usually load associated. If the pavement is fragmented along a crack, the crack is said to be spalled.

Severity Levels

Low	Medium	High
Cracks have only light spalling (little or no FOD potential) or no spalling, and can be filled or non-filled. If non-filled, the cracks have a mean width of ¼ inch (6 mm) or less; filled cracks are of any width, but their filler material is in satisfactory condition.	One of the following conditions exists: (1) cracks are moderately spalled (some FOD potential) and can be either filled or non-filled of any width; (2) filled cracks are not spalled or are lightly spalled, but filler is in unsatisfactory condition; (3) non-filled cracks are not spalled or are only lightly spalled, but the mean crack width is greater than ¼ inch (6 mm), or (4) light random cracking exists near the crack or at the corners of intersecting cracks.	Cracks are severely spalled and pieces are loose or missing causing definite FOD potential. Cracks can be either filled or non-filled of any width.

Porous Friction Courses: Severity Levels

Low	Medium	High
Average raveled area around the crack is less than ¼ inch (6 mm) wide.	Average raveled area around the crack is between ¼ to 1 inch (6 to 25 mm) wide.	Average raveled area around the crack is greater than 1 inch (25 mm) wide.

Block Cracking

Description

Block cracks are interconnected cracks that divide the pavement into approximately rectangular pieces. The blocks may range in size from approximately 1 by 1 ft to 10 by 10 ft (0.3 by 0.3 m to 3 by 3 m). Block cracking is caused mainly by shrinkage of the AC and daily temperature cycling (that results in daily stress/strain cycling). It is not load associated. The occurrence of block cracking usually indicates that the asphalt has hardened significantly. Block cracking normally occurs over a large portion of pavement area, but sometimes will occur only in non-traffic areas. This type of distress differs from alligator cracking in that the alligator cracks form smaller, many-sided pieces with sharp angles. Also unlike block cracks, alligator cracks are caused by repeated traffic loadings and are, therefore, located only in traffic areas (that is, wheel paths).

Severity Levels

Low	Medium	High
Blocks are defined by cracks that are non-spalled (sides of the crack are vertical) or lightly spalled, causing no FOD potential. Non-filled cracks have ¼ inch (6 mm) or less mean width and filled cracks have filler in satisfactory condition.	Blocks are defined by either: filled or non-filled cracks that are moderately spalled (some FOD potential); non-filled cracks that are not spalled or have only minor spalling (some FOD potential), but have a mean width greater than approximately ¼ inch (6 mm); or filled cracks greater than ¼ inch that are not spalled or have only minor spalling (some FOD potential), but have filler in unsatisfactory condition.	Blocks are well defined by cracks that are severely spalled, causing a definite FOD potential.

Alligator or Fatigue Cracking

Description

Alligator or fatigue cracking is a series of interconnecting cracks caused by fatigue failure of the AC surface under repeated traffic loading. The cracking initiates at the bottom of the AC surface (or stabilized base) where tensile stress and strain are highest under a wheel load. The cracks propagate to the surface initially as a series of parallel cracks. After repeated traffic loading, the cracks connect, forming many-sided, sharp-angled pieces that develop a pattern resembling chicken wire or the skin of an alligator. The pieces are less than 2 ft (0.6 m) on the longest side.

Alligator cracking occurs only in areas that are subjected to repeated traffic loadings, such as wheel paths. Therefore, it would not occur over an entire area unless the entire area was subjected to traffic loading. (Pattern-type cracking that occurs over an entire area that is not subjected to loading is rated as block cracking, that is, not a load-associated distress.) Alligator cracking is considered a major structural distress.

Severity Levels

Low	Medium	High
Fine, longitudinal hairline cracks running parallel to one another with none or only a few interconnecting cracks. The cracks are not spalled.	Further development of light alligator cracking into a pattern or network of cracks that may be lightly spalled. Medium-severity alligator cracking is defined by a well-defined pattern of interconnecting cracks, where all pieces are securely held in place (good aggregate interlock between pieces).	Network or pattern cracking has progressed so that the pieces are well defined and spalled at the edges; some of the pieces rock under traffic and may cause FOD potential.

Surface Distress

There are four types of cracking usually found on airport pavements.

Weathering (Surface Wear)—Dense Mix Asphalt

Description

The wearing away of the asphalt binder and fine aggregate matrix from the pavement surface.

Severity Levels

Low	Medium	High
Asphalt surface beginning to show signs of aging which may be accelerated by climatic conditions. Loss of the fine aggregate matrix is noticeable and may be accompanied by fading of the asphalt color. Edges of the coarse aggregates are beginning to be exposed (less than 1 mm or 0.05 inches). Pavement may be relatively new (as new as 6 months old).	Loss of fine aggregate matrix is noticeable and edges of coarse aggregate have been exposed up to $\frac{1}{4}$ width (of the longest side) of the coarse aggregate due to the loss of fine aggregate matrix.	Edges of coarse aggregate have been exposed greater than $\frac{1}{4}$ width (of the longest side) of the coarse aggregate. There is considerable loss of fine aggregate matrix leading to potential or some loss of coarse aggregate.

Raveling

Description

Raveling is the dislodging of coarse aggregate particles from the pavement surface.

Dense Mix Severity Levels

As used herein, coarse aggregate refers to predominant coarse aggregate sizes of the asphalt mix. Aggregate clusters refer to when more than one adjoining coarse aggregate piece is missing. If in doubt about a severity level, three representative areas of one square yard each (one square meter) should be examined and the number of missing coarse aggregate particles counted.

Low	Medium	High
(1) In a square yard (square meter) representative area, the number of coarse aggregate particles missing is between 5 and 20, and/or (2) missing aggregate clusters are less than 2 percent of the examined square yard (square meter) area. In low severity raveling, there is little or no FOD potential.	(1) In a square yard (square meter) representative area, the number of coarse aggregate particles missing is between 21 and 40, and/or (2) missing aggregate clusters are between 2 and 10 percent of the examined square yard (square meter) area. In medium severity raveling, there is some FOD potential.	(1) In a square yard (square meter) representative area, the number of coarse aggregate particles missing is over 40, and/or (2) missing aggregate clusters are more than 10 percent of the examined square yard (square meter) area. In high severity raveling, there is significant FOD potential.

Slurry Seal/Coal Tar over Dense Mix Severity Levels

Low	Medium	High
(1) The scaled area is less than 1%. (2) In the case of coal tar where pattern cracking has developed, the surface cracks are less than ¼ inch (6 mm) wide.	(1) The scaled area is between 1 and 10%. (2) In the case of coal tar where pattern cracking has developed, the cracks are ¼ inch (6 mm) wide or greater.	(1) The scaled area is over 10%. (2) In the case of coal tar the surface is peeling off.

Porous Friction Course Severity

Low	Medium	High
(1) In a square foot (1/10 square meter) representative sample, the number of aggregate pieces missing is between 5 and 20 and/or the number of missing aggregate clusters does not exceed 1.	(1) In a square foot (1/10 square meter) representative sample, the number of aggregate pieces missing is between 21 and 40 and/or the number of missing aggregate clusters is greater than 1 but does not exceed 25% of the area.	(1) In a square foot (1/10 square meter) representative sample, the number of aggregate pieces missing is over 40 and/or the number of missing aggregate clusters is greater than 25% of the area.

Patching and Utility Cut Patch

Description

A patch is considered a defect, no matter how well it is performing.

Severity Levels

Low	Medium	High
Patch is in good condition and is performing satisfactorily.	Patch is somewhat deteriorated and affects ride quality to some extent. Moderate amount of distress is present within the patch or has FOD potential, or both.	Patch is badly deteriorated and affects ride quality significantly or has high FOD potential. Patch soon needs replacement.

Porous Friction Courses

The use of dense-graded AC patches in porous friction surfaces causes a water damming effect at the patch which contributes to differential skid resistance of the surface. Low-severity dense-graded patches should be rated as medium severity due to the differential friction problem. Medium- and high-severity patches are rated the same as above.

Severity Levels

Low	Medium	High
Swell is barely visible and has a minor effect on the pavement's ride quality. (Low-severity swells may not always be observable, but their existence can be confirmed by driving a vehicle over the section. An upward acceleration will occur if the swell is present).	Swell can be observed without difficulty and has a significant effect on the pavement's ride quality.	Swell can be readily observed and severely affects the pavement's ride quality.

The following guidance is provided for runways:

Severity	Height Differential
L	< ¾ inch (20 mm)
M	¾ to 1½ inch (20 to 40 mm)
H	> 1½ inch (40 mm)

Rate severity on high-speed taxiways using measurement criteria provided above. Double the height differential criteria for other taxiways and aprons.

Select a combination of distress type, extent, and severity:

Distress Type and Extent		Severity	
Few Longitudinal Cracks or Joints	Low Sev	Medium Sev	High Sev
Many Longitudinal Cracks	Low Sev	Medium Sev	High Sev
A Few Edge Cracks	Low Sev	Medium Sev	High Sev
Transverse Cracks 50 Ft Apart	Low Sev	Medium Sev	High Sev
Transverse Cracks 20 Ft Apart	Low Sev	Medium Sev	High Sev
Block Cracking	Low Sev	Medium Sev	High Sev
Reflection Cracking	Low Sev	Medium Sev	High Sev
Fatigue Cracking- 10% Of Area	Low Sev	Medium Sev	High Sev
Fatigue Cracking- 30%	Low Sev	Medium Sev	High Sev
Starting to Weather	Low Sev		
Definitely Weathering		Medium Sev	
Starting to Ravel	Low Sev		
Definitely Raveling		Medium Sev	
Patching- 10% of Area	Low Sev	Medium Sev	High Sev
Patching- 30% of Area	Low Sev	Medium Sev	High Sev
Roughness	Long Wavelength Swells	Many Long Wavelength Swells	Many Short Wavelength Bumps

Concrete Pavement Distresses

Joint Problems

There are two types of joint problems usually found on airport pavements.

Joint Seal Damage

Description

Joint seal damage is any condition that enables soil or rocks to accumulate in the joints or allows significant infiltration of water. Accumulation of incompressible materials prevents the slabs from expanding and may result in buckling, shattering, or spalling. A pliable joint filler bonded to the edges of the slabs protects the joints from accumulation of materials and also prevents water from seeping down and softening the foundation supporting the slab. Typical types of joint seal damage are: (1) stripping of joint sealant, (2) extrusion of joint sealant, (3) weed growth, (4) hardening of the filler (oxidation), (5) loss of bond to the slab edges, and (6) lack or absence of sealant in the joint.

Severity Levels

Low	Medium	High
Joint sealer is in generally good condition throughout the sample. Sealant is performing well with only a minor amount of any of the above types of damage present. Joint seal damage is at low severity if a few of the joints have sealer which has debonded from, but is still in contact with, the joint edge. This condition exists if a knife blade can be inserted between sealer and joint face without resistance.	Joint sealer is in generally fair condition over the entire surveyed sample with one or more of the above types of damage occurring to a moderate degree. Sealant needs replacement within two years. Joint seal damage is at medium severity if a few of the joints have any of the following conditions: (1) joint sealer is in place, but water access is possible through visible openings no more than 1/8 inch (3 mm) wide. If a knife blade cannot be inserted easily between sealer and joint face, this condition does not exist; (2) pumping debris are evident at the joint; (3) joint sealer is oxidized and “lifeless” but pliable (like a rope), and generally fills the joint opening; or (4) vegetation in the joint is obvious, but does not obscure the joint opening.	Joint sealer is in generally poor condition over the entire surveyed sample with one or more of the above types of damage occurring to a severe degree. Sealant needs immediate replacement. Joint seal damage is at high severity if 10% or more of the joint sealer exceeds limiting criteria listed above, or if 10% or more of sealer is missing.

Spalling (Transverse and Longitudinal Joint)

Description

Joint spalling is the breakdown of the slab edges within 2 ft (0.6 m) of the side of the joint. A joint spall usually does not extend vertically through the slab but intersects the joint at an angle. Spalling results from excessive stresses at the joint or crack caused by infiltration of incompressible materials or traffic load. Weak concrete at the joint (caused by overworking) combined with traffic loads is another cause of spalling.

Note: Frayed condition as used in this test method indicates material is no longer in place along a joint or crack. Spalling indicates material may or may not be missing along a joint or crack.

Severity Levels

Low	Medium	High
Spall over 2 ft (0.6 m) long: (1) spall is broken into no more than three pieces defined by low- or medium-severity cracks; little or no FOD potential exists; or (2) joint is lightly frayed; little or no FOD potential. Spall less than 2 ft long is broken into pieces or fragmented with little FOD or tire damage potential exists. Lightly frayed means the upper edge of the joint is broken away leaving a spall no wider than 1 in. (25 mm) and no deeper than ½ inch (13 mm). The material is missing and the joint creates little or no FOD potential.	Spall over 2 ft (0.6 m) long: (1) spall is broken into more than three pieces defined by light or medium cracks; (2) spall is broken into no more than three pieces with one or more of the cracks being severe with some FOD potential existing; or (3) joint is moderately frayed with some FOD potential. Spall less than 2 ft long: spall is broken into pieces or fragmented with some of the pieces loose or absent, causing considerable FOD or tire damage potential. Moderately frayed means the upper edge of the joint is broken away leaving a spall wider than 1 in. (25 mm) or deeper than ½ inch (13 mm). The material is mostly missing with some FOD potential.	Spall over 2 ft (0.6 m) long: (1) spall is broken into more than three pieces defined by one or more high-severity cracks with high FOD potential and high possibility of the pieces becoming dislodged, or (2) joint is severely frayed with high FOD potential.

Note: If less than 2 ft (0.6 m) of the joint is lightly frayed, the spall should not be counted.

Spalling (Corner)

Description

Corner spalling is the raveling or breakdown of the slab within approximately 2 ft (0.6 m) of the corner. A corner spall differs from a corner break in that the spall usually angles downward to intersect the joint, while a break extends vertically through the slab.

Severity Levels

Low	Medium	High
One of the following conditions exists: (1) spall is broken into one or two pieces defined by low-severity cracks (little or no FOD potential); or (2) spall is defined by one medium-severity crack (little or no FOD potential).	One of the following conditions exists: (1) spall is broken into two or more pieces defined by medium-severity crack(s), and a few small fragments may be absent or loose; (2) spall is defined by one severe, fragmented crack that may be accompanied by a few hairline cracks; or, (3) spall has deteriorated to the point where loose material is causing some FOD potential.	One of the following conditions exists: (1) spall is broken into two or more pieces defined by high-severity fragmented crack(s) with loose or absent fragments; (2) pieces of the spall have been displaced to the extent that a tire damage hazard exists; or (3) spall has deteriorated to the point where loose material is causing high FOD potential.

A corner spall smaller than 3 inches (76 mm) wide, measured from the edge of the slab, and filled with sealant is not recorded.

Cracking

There are four types of cracking usually found on airport pavements.

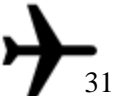
Longitudinal, Transverse, and Diagonal Cracks (Mid-Panel Cracking)

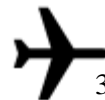
Description

These cracks, that divide the slab into two or three pieces, are usually caused by a combination of load repetition, curling stresses, and shrinkage stresses. (For slabs divided into four or more pieces.) Low-severity cracks are usually warping- or friction-related and are not considered major structural distresses. Medium- or high-severity cracks are usually working cracks and are considered major structural distresses.

Note: Hairline cracks that are only a few feet long and do not extend across the entire slab are rated as shrinkage cracks.

Introduction	Step 3: Identify Distress Types	Asphalt Pavement Treatment Tables	Asphalt Maintenance Treatment Hierarchy	Concrete Pavement Treatment Tables	Concrete Maintenance Treatment Hierarchy
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Severity Levels

Low	Medium	High
Crack has little or minor spalling (no FOD potential). If non-filled, it has a mean width less than approximately $\frac{1}{8}$ inch (3 mm). A filled crack can be of any width, but the filler material must be in satisfactory condition; or the slab is divided into three pieces by low-severity cracks.	One of the following conditions exists: (1) filled or non-filled crack is moderately spalled (some FOD potential); (2) a non-filled crack has a mean width between $\frac{1}{8}$ and 1 inch (3 and 25 mm); (3) a filled crack is not spalled or only lightly spalled, but the filler is in unsatisfactory condition; or (4) the slab is divided into three pieces by two or more cracks, one of which is at least medium severity.	One of the following conditions exists: (1) filled or non-filled crack is severely spalled, causing definite FOD potential; (2) a non-filled crack has a mean width greater than approximately 1 inch (25 mm), creating a tire damage potential; or (3) the slab is divided into three pieces by two or more cracks, one of which is at least high severity.

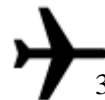
Corner Break

Description

A corner break is a crack that intersects the joints at a distance less than or equal to one half of the slab length on both sides, measured from the corner of the slab. For example, a slab with dimensions of 25 by 25 ft (7.5 by 7.5 m) that has a crack intersecting the joint 5 ft (1.5 m) from the corner on one side and 17 ft (5 m) on the other side is not considered a corner break; it is a diagonal crack. However, a crack that intersects 7 ft (2 m) on one side and 10 ft (3 m) on the other is considered a corner break. A corner break differs from a corner spall in that the crack extends vertically through the entire slab thickness, while a corner spall intersects the joint at an angle. Load repetition combined with loss of support and curling stresses usually cause corner breaks.

Severity Levels

Low	Medium	High
Crack has little or minor spalling (no FOD potential). If non-filled, it has a mean width less than approximately 1/8 inch (3 mm). A filled crack can be of any width, but the filler material must be in satisfactory condition. The area between the corner break and the joints is not cracked.	One of the following conditions exists: (1) filled or non-filled crack is moderately spalled (some FOD potential); (2) a non-filled crack has a mean width between 1/8 and 1 inch (3 and 25 mm); (3) a filled crack is not spalled or only lightly spalled, but the filler is in unsatisfactory condition; or (4) the area between the corner break and the joints is lightly cracked. Lightly cracked means one low-severity crack dividing the corner into two pieces.	One of the following conditions exists: (1) filled or non-filled crack is severely spalled, causing definite FOD potential; (2) a non-filled crack has a mean width greater than approximately 1 inch (25 mm), creating a tire damage potential; or (3) the area between the corner break and the joints is severely cracked.



Shattered Slab/Intersecting Cracks

Description

Intersecting cracks are cracks that break the slab into four or more pieces due to overloading or inadequate support, or both. The high-severity level of this distress type, as defined as follows, is referred to as shattered slab. If all pieces or cracks are contained within a corner break, the distress is categorized as a severe corner break.

Severity Levels

Low	Medium	High
Slab is broken into four or five pieces predominantly defined by low-severity cracks.	Slab is broken into four or five pieces with over 15% of the cracks of medium severity (no high-severity cracks); slab is broken into six or more pieces with over 85% of the cracks of low severity.	At this level of severity, the slab is called shattered: (1) slab is broken into four or five pieces with some or all cracks of high severity; or (2) slab is broken into six or more pieces with over 15% of the cracks of medium or high severity.

Surface Distress

There are four types of cracking usually found on airport pavements.

Patching, Small (Less Than 5 sf [0.5 m²])

Description

A patch is an area where the original pavement has been removed and replaced by a filler material. For condition evaluation, patching is divided into two types: small (less than 5 sf [0.5 m²]) and large (over 5 sf). Large patches are described in the next section.

Severity Levels

Low	Medium	High
Patch is functioning well with little or no deterioration.	Patch that has deterioration or moderate spalling, or both, can be seen around the edges. Patch material can be dislodged with considerable effort (minor FOD potential).	Patch deterioration, either by spalling around the patch or cracking within the patch, to a state that warrants replacement.

Patching, Large (Over 5 sf [0.5 m²]) and Utility Cut

Description

Patching is the same as defined in the previous section. A utility cut is a patch that has replaced the original pavement because of placement of underground utilities. The severity levels of a utility cut are the same as those for regular patching.

Severity Levels

Low	Medium	High
Patch is functioning well with very little or no deterioration.	Patch deterioration or moderate spalling, or both, can be seen around the edges. Patch material can be dislodged with considerable effort, causing some FOD potential.	Patch has deteriorated to a state that causes considerable roughness or high FOD potential, or both. The extent of the deterioration warrants replacement of the patch.

Settlement or Faulting

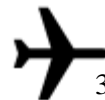
Description

Settlement or faulting is a difference of elevation at a joint or crack caused by upheaval or consolidation.

Severity Levels

Severity levels are defined by the difference in elevation across the fault and the associated decrease in ride quality and safety as severity increases:

	Runways/Taxiways	Aprons
L	< ¼ inch (6 mm)	1/8 < ½ inch (3 to 13 mm)
M	¼ to ½ inch (6 to 13 mm)	½ to 1 inch (13 to 25 mm)
H	> ½ inch (13 mm)	> 1 inch (25 mm)



Select a combination of distress type, extent, and severity:

Distress Type and Extent		Severity		
Joint Seal Damage	None	Low Sev	Medium Sev	High Sev
Joint and Corner Spalls		Low Sev	Medium Sev	High Sev
Mid-Panel Cracks, 20% of slabs		Low Sev	Medium Sev	High Sev
Mid-Panel Cracks, 40% of slabs		Low Sev	Medium Sev	High Sev
Corner Breaks, 10% of slabs		Low Sev	Medium Sev	High Sev
Corner Breaks, 30% of slabs		Low Sev	Medium Sev	High Sev
Shattered Slabs, 10% of slabs		Low Sev	Medium Sev	High Sev
Shattered Slabs, 30% of slabs		Low Sev	Medium Sev	High Sev
Patches, 30% of slabs		Low Sev	Medium Sev	High Sev
Patches, 50% of slabs		Low Sev	Medium Sev	High Sev
Faulting, 10% of slabs		Low Sev	Medium Sev	High Sev
Faulting, 30% of slabs		Low Sev	Medium Sev	High Sev

Step 4. Determine Treatment

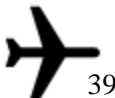
Using either asphalt or concrete pavement treatment tables, and previously identified airport classification, climatic zone, distress type-extent-severity, select the appropriate recommended and acceptable treatment.

Airport Classification: Local
Climatic Zone: Dry-Freeze
Pavement Type: Concrete
Distress Type: Corner Breaks, 30% of slabs, Medium severity =

Recommended: Full-depth repair (local)

Acceptable: Crack/joint seal

If there are additional distress types, repeat step 4. For each distress combination, select the preferred treatment. There are a number of reasons why a facility might select the acceptable treatment instead of the recommended treatment. These include local contractors, availability of material, the time to complete the treatment, initial cost, and many, many others. The recommended treatment was the consensus opinion of the knowledgeable airport personnel contacted and the experience of the research team.



Once the chosen treatment for each distress combination has been identified, the asphalt or concrete pavement treatment Hierarchy table, at the end of the appropriate treatment tables is consulted to determine whether a single treatment or multiple treatments should be performed. For example, if one combination suggested a fog seal and the other combination suggested an overlay, only the overlay would be performed. However, if the second combination suggested a crack seal, both would be performed.

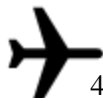
The end of this guide shows a condensed version of the treatment descriptions found in the guidebook. These data were taken from *Common Airport Pavement Maintenance Practices: A Synthesis of Airport Practice*, (Hajek, J., J. W. Hall, and D. K. Hein), which provides a thorough catalogue of most common treatment options.

Asphalt Pavement Treatment Tables

<i>Wet – Freeze – Cracking</i>			
Basic	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Do nothing	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Do nothing, or AC overlay/mill+overlay	Crack seal/fill
	Many long crack, Med sev	Patch/reconstruct area or do nothing	Crack seal/fill
Asphalt	Many long crack, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	AC overlay/mill+overlay or do nothing	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Crack seal/fill	Patch/recon area
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	AC overlay/mill+overlay or do nothing	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Crack seal/fill	Asphalt overlay/mill+overlay
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	Do nothing	Crack seal/fill
	Block crack, Hi sev	Chip/cape seal	AC overlay/mill+overlay

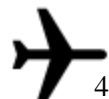
<i>Wet – Freeze – Cracking</i>			
Basic	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Crack seal/fill	Do nothing
	Few edge crack, Med sev	AC overlay/mill+overlay or patch/recon area	Crack seal/fill
	Few edge crack, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Reflection crack, Low sev	Do nothing	Crack seal/fill
	Reflection crack, Med sev	AC overlay/mill+overlay or do nothing	Crack seal/fill
Asphalt	Reflection crack, Hi sev	AC overlay/mill+overlay or rehab/recon	Patch/recon area
	Fatigue crack, 10%, Low sev	Do nothing	Crack seal/fill
	Fatigue crack, 10%, Med sev	Fog/coal tar seal	Patch/recon area
	Fatigue crack, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Fatigue crack, 30%, Low sev	Fog/coal tar seal	AC overlay/mill+overlay or rehab/recon
	Fatigue crack, 30%, Med sev	Patch/reconstruct area or rehab/recon	AC overlay/mill+overlay
	Fatigue crack, 30%, Hi sev	AC overlay/mill+overlay or patch/recon area	Rehab/recon

<i>Wet – Freeze – Surface Distress</i>			
Basic	Distress	Acceptable	Recommended
	Start to weather	Fog/coal tar seal, rejuvenator	Do nothing
	Definitely weather	Do nothing	Fog/coal tar seal, rejuvenator
	Starting to ravel	Fog/coal tar seal, rejuvenator	Chip/cape seal
	Definitely ravel	Chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Slurry/micro	Do nothing
	Patch, 10%, Med sev	Do nothing	Slurry/micro or patch/recon area
	Patch, 10%, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Patch, 30%, Low sev	Fog/coal tar seal	Do nothing
	Patch, 30%, Med sev	Fog/coal tar seal	Patch/recon area
	Patch, 30%, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Rough, Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay



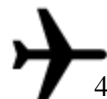
<i>Wet – No Freeze – Cracking</i>			
Basic	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing or rejuvenator	Crack seal/fill
	Few long crack, Med sev	Do nothing or rejuvenator	Crack seal/fill
	Few long crack, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Many long crack, Low sev	Do nothing	Crack seal/fill
	Many long crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
Asphalt	Many long crack, Hi sev	Crack seal/fill	AC overlay/mill+overlay
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	AC overlay/mill+overlay	Crack seal/fill
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	Chip/cape seal	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	AC overlay/mill+overlay	Crack seal/fill
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
	Block crack, Hi sev	Chip/cape seal	AC overlay/mill+overlay

<i>Wet – No Freeze – Cracking</i>			
Basic	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Crack seal/fill	Do nothing
	Few edge crack, Med sev	Rejuvenator	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill or rejuvenator	Patch/recon area
	Reflection crack, Low sev	Do nothing	Crack seal/fill
Asphalt	Reflection crack, Med sev	Crack seal/fill	Crack seal/fill
	Reflection crack, Hi sev	Rehab/recon	Patch/recon area
	Fatigue crack, 10%, Low sev	Patch/recon area	Crack seal/fill
	Fatigue crack, 10%, Med sev	Chip/cape seal	Crack seal/fill
	Fatigue crack, 10%, Hi sev	Chip/cape seal	Patch/recon area
	Fatigue crack, 30%, Low sev	Rejuvenator	AC overlay/mill+overlay
	Fatigue crack, 30%, Med sev	Patch/recon area	AC overlay/mill+overlay
	Fatigue crack, 30%, Hi sev	AC overlay/mill+overlay	Rehab/recon



<i>Wet – No Freeze – Surface Distress</i>			
Basic	Distress	Acceptable	Recommended
	Start to weather	Do nothing or rejuvenator	Fog/coal tar seal
	Definitely weather	Rejuvenator or fog/coal tar seal	Slurry/micro
	Starting to ravel	Slurry/micro	Rejuvenator
	Definitely ravel	Chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Do nothing	Do nothing
	Patch, 10%, Med sev	Fog/coal tar seal	Do nothing
	Patch, 10%, Hi sev	Slurry/micro or chip/cape seal	Patch/recon area
	Patch, 30%, Low sev	Crack seal/fill	Do nothing
	Patch, 30%, Med sev	Chip/cape seal	AC overlay/mill+overlay
	Patch, 30%, Hi sev	Rehab/recon	AC overlay/mill+overlay
	Rough, Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay

<i>Dry – Freeze – Cracking</i>			
Basic	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Crack seal/fill	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Do nothing	Crack seal/fill
	Many long crack, Med sev	Crack seal/fill	Crack seal/fill
Asphalt	Many long crack, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	AC overlay/mill+overlay	Crack seal/fill
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	Chip/cape seal	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Chip/cape seal	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	Chip/cape seal	Crack seal/fill
	Block crack, Hi sev	Chip/cape seal	AC overlay/mill+overlay



Dry – Freeze – Cracking

Basic

Distress**Acceptable****Recommended**

Few edge crack, Low sev

Do nothing

Crack seal/fill

Few edge crack, Med sev

Crack seal/fill

Crack seal/fill

Few edge crack, Hi sev

Crack seal/fill

Patch/recon area

Reflection crack, Low sev

Do nothing

Crack seal/fill

Reflection crack, Med sev

Crack seal/fill

Crack seal/fill

Reflection crack, Hi sev

Crack seal/fill or Rehab/recon

Patch/recon area

Asphalt

Fatigue crack, 10%, Low sev

Rejuvenator

Crack seal/fill

Fatigue crack, 10%, Med sev

Chip/cape seal

Patch/recon area

Fatigue crack, 10%, Hi sev

AC overlay/mill+overlay

Patch/recon area

Fatigue crack, 30%, Low sev

Chip/cape seal

AC overlay/mill+overlay

Fatigue crack, 30%, Med sev

Chip/cape seal

Patch/recon area

Fatigue crack, 30%, Hi sev

AC overlay/mill+overlay

Patch/recon area

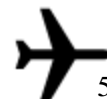
<i>Dry – Freeze – Surface Distress</i>			
Basic	Distress	Acceptable	Recommended
	Start to weather	Fog/coal tar seal	Rejuvenator
	Definitely weather	Fog/coal tar seal	Slurry/micro
	Starting to ravel	Slurry/micro	Chip/cape seal
	Definitely ravel	Slurry/micro	Chip/cape seal
Asphalt	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Slurry/micro or fog/coal tar seal	Do nothing
	Patch, 10%, Hi sev	Slurry/micro or fog/coal tar seal	Patch/recon area
	Patch, 30%, Low sev	Crack seal/fill	Do nothing
	Patch, 30%, Med sev	Patch/recon area	AC overlay/mill+overlay
	Patch, 30%, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Rough, Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Long Wave Swell	AC overlay/mill+overlay	Do nothing
	Rough, Many Short Wave Bump	AC overlay/mill+overlay	Do nothing



Dry – No Freeze – Cracking

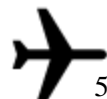
	Distress	Acceptable	Recommended
Basic	Few long crack, Low sev	Crack seal/fill	Do nothing
	Few long crack, Med sev	Do nothing	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Crack seal/fill	Do nothing
	Many long crack, Med sev	Do nothing	Crack seal/fill
Asphalt	Many long crack, Hi sev	Crack seal/fill	AC overlay/mill+overlay
	Trans crack, 50ft apart, Low sev	Crack seal/fill	Do nothing
	Trans crack, 50ft apart, Med sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Patch/recon area	Crack seal/fill
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Chip/cape seal	Crack seal/fill
	Block crack, Low sev	Crack seal/fill	Do nothing
	Block crack, Med sev	Do nothing	Crack seal/fill
	Block crack, Hi sev	Crack seal/fill	AC overlay/mill+overlay

<i>Dry – No Freeze – Cracking</i>			
Basic	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Crack seal/fill	Do nothing
	Few edge crack, Med sev	Do nothing	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill	Patch/recon area
	Reflection crack, Low sev	Crack seal/fill	Do nothing
	Reflection crack, Med sev	Do nothing	Crack seal/fill
Asphalt	Reflection crack, Hi sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Low sev	Do nothing	Crack seal/fill
	Fatigue crack, 10%, Med sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Fatigue crack, 30%, Low sev	Rejuvenator	AC overlay/mill+overlay
	Fatigue crack, 30%, Med sev	AC overlay/mill+overlay	Patch/recon area
	Fatigue crack, 30%, Hi sev	Patch/recon area	Rehab/recon



<i>Dry – No Freeze – Surface Distress</i>			
Basic	Distress	Acceptable	Recommended
	Start to weather	Fog/coal tar seal	Rejuvenator
	Definitely weather	Rejuvenator	Fog/coal tar seal
	Starting to ravel	Fog/coal tar seal	Slurry/micro
	Definitely ravel	Slurry/micro	Chip/cape seal
	Patch, 10%, Low sev	Crack seal/fill	Do nothing
Asphalt	Patch, 10%, Med sev	Do nothing	Crack seal/fill
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Crack seal/fill	Do nothing
	Patch, 30%, Med sev	AC overlay/mill+overlay	Chip/cape seal or slurry/micro
	Patch, 30%, Hi sev	Chip/cape seal or slurry/micro	AC overlay/mill+overlay
	Rough, Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Long Wave Swell	AC overlay/mill+overlay	Do nothing
	Rough, Many Short Wave Bump	AC overlay/mill+overlay	Do nothing

<i>Wet – Freeze – Cracking</i>			
Local	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Crack seal/fill	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Rejuvenator or fog/coal tar seal	Crack seal/fill
	Many long crack, Med sev	AC Overlay/mill+ overlay	Crack seal/fill
Asphalt	Many long crack, Hi sev	Rehab/recon	AC Overlay/mill+ overlay
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Crack seal/fill	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	Crack seal/fill	AC overlay/mill+overlay
	Trans crack, 20ft apart, Hi sev	Chip/cape seal	AC overlay/mill+overlay
	Block crack, Low sev	Rejuvenator	Crack seal/fill
	Block crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
	Block crack, Hi sev	Rehab/recon	AC overlay/mill+overlay



Wet – Freeze – Cracking

Local

Distress

Acceptable

Recommended

Few edge crack, Low sev

Do nothing

Crack seal/fill

Few edge crack, Med sev

Patch/recon area

Crack seal/fill

Few edge crack, Hi sev

Crack seal/fill

Patch/recon area

Reflection crack, Low sev

Do nothing

Crack seal/fill

Reflection crack, Med sev

Crack seal/fill

Crack seal/fill

Reflection crack, Hi sev

Rehab/recon

Patch/recon area

Asphalt

Fatigue crack, 10%, Low sev

Do nothing

Crack seal/fill

Fatigue crack, 10%, Med sev

Crack seal/fill

Patch/recon area

Fatigue crack, 10%, Hi sev

AC overlay/mill+overlay

Patch/recon area

Fatigue crack, 30%, Low sev

Rehab/recon

AC overlay/mill+overlay

Fatigue crack, 30%, Med sev

Rehab/recon

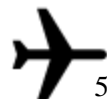
AC overlay/mill+overlay

Fatigue crack, 30%, Hi sev

AC overlay/mill+overlay

Rehab/recon

<i>Wet – Freeze – Surface Distress</i>			
Local	Distress	Acceptable	Recommended
	Start to weather	Rejuvenator	Do nothing
	Definitely weather	Fog/coal tar seal	Rejuvenator
	Starting to ravel	Fog/coal tar seal	Slurry/micro
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Patch/recon area	Crack seal/fill
	Patch, 10%, Hi sev	Chip/cape seal	Patch/recon area
	Patch, 30%, Low sev	Crack seal/fill	Do nothing
	Patch, 30%, Med sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Rough, Long Wave Swell	Do nothing	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay



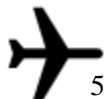
<i>Wet – No Freeze – Cracking</i>			
Local	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Do nothing	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Rejuvenator	Chip/cape seal
	Many long crack, Med sev	AC overlay/mill+overlay	Chip/cape seal
Asphalt	Many long crack, Hi sev	Crack seal/fill	AC overlay/mill+overlay
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Crack seal/fill	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	Crack seal/fill	AC overlay/mill+overlay
	Trans crack, 20ft apart, Hi sev	Crack seal/fill	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	Rejuvenator	Crack seal/fill
	Block crack, Hi sev	Rehab/recon	AC overlay/mill+overlay

<i>Wet – No Freeze – Cracking</i>			
Local	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Do nothing	Crack seal/fill
	Few edge crack, Med sev	Patch/recon area	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill	Patch/recon area
	Reflection crack, Low sev	Do nothing	Crack seal/fill
	Reflection crack, Med sev	Crack seal/fill	Crack seal/fill
Asphalt	Reflection crack, Hi sev	Patch/recon area	Rehab/recon
	Fatigue crack, 10%, Low sev	Rejuvenator	Patch/recon area
	Fatigue crack, 10%, Med sev	Rejuvenator	Patch/recon area
	Fatigue crack, 10%, Hi sev	Rejuvenator	Patch/recon area
	Fatigue crack, 30%, Low sev	Rejuvenator	Patch/recon area
	Fatigue crack, 30%, Med sev	Rejuvenator	Patch/recon area
	Fatigue crack, 30%, Hi sev	Patch/recon area	Rehab/recon



<i>Wet – No Freeze – Surface Distress</i>			
Local	Distress	Acceptable	Recommended
	Start to weather	Fog/coal tar seal	Rejuvenator
	Definitely weather	Rejuvenator or fog/coal tar seal	Slurry/micro
	Starting to ravel	Rejuvenator or fog/coal tar seal	Slurry/micro
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Crack seal/fill	Patch/recon area
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Crack seal/fill	Do nothing
	Patch, 30%, Med sev	Slurry/micro or chip/cape seal	Patch/recon area
	Patch, 30%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Rough, Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay

		Dry – Freeze – Cracking	
Local	Distress	Acceptable	Recommended
	Few long crack, Low sev	Rejuvenator	Crack seal/fill
	Few long crack, Med sev	Fog/coal tar seal	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Fog/coal tar seal or rejuvenator	Crack seal/fill
	Many long crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
Asphalt	Many long crack, Hi sev	AC overlay/mill+overlay	Rehab/recon
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Crack seal/fill	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Crack seal/fill	AC overlay/mill+overlay
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	Crack seal/fill	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Crack seal/fill	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing	Fog/Coal Tar seal
	Block crack, Med sev	Crack seal/fill	AC overlay/mill+overlay
	Block crack, Hi sev	AC overlay/mill+ overlay	Rehab/recon



Dry – Freeze – Cracking

Local

Distress**Acceptable****Recommended**

Few edge crack, Low sev

Crack seal/fill

Do nothing

Few edge crack, Med sev

Patch/recon area

Crack seal/fill

Few edge crack, Hi sev

Crack seal/fill

Patch/recon area

Reflection crack, Low sev

Do nothing

Crack seal/fill

Reflection crack, Med sev

Crack seal/fill

Crack seal/fill

Reflection crack, Hi sev

Patch/recon area

Rehab/recon

Asphalt

Fatigue crack, 10%, Low sev

Fog/coal tar seal or rejuvenator

Crack seal/fill

Fatigue crack, 10%, Med sev

Crack seal/fill

Patch/recon area

Fatigue crack, 10%, Hi sev

AC overlay/mill+ overlay

Patch/recon area

Fatigue crack, 30%, Low sev

Fog/coal tar seal

AC overlay/mill+ overlay

Fatigue crack, 30%, Med sev

Patch/recon area

AC overlay/mill+ overlay

Fatigue crack, 30%, Hi sev

Patch/recon area

Rehab/recon

<i>Dry – Freeze – Surface Distress</i>			
Local	Distress	Acceptable	Recommended
	Start to weather	Rejuvenator	Slurry/micro or fog/coal tar seal
	Definitely weather	Rejuvenator	Slurry/micro or fog/coal tar seal
	Starting to ravel	AC overlay/mill+overlay	Slurry/micro or fog/coal tar seal
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Patch/recon area	Do nothing
	Patch, 10%, Hi sev	AC overlay/mill+ overlay	Patch/recon area
	Patch, 30%, Low sev	Crack seal/fill	Do nothing
	Patch, 30%, Med sev	Patch/recon area	Chip/cape seal
	Patch, 30%, Hi sev	Rehab/recon	AC overlay/mill+ overlay
	Rough, Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay



Dry – No Freeze – Cracking

	Distress	Acceptable	Recommended
Local	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Do nothing	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Fog/coal tar seal	Chip/cape seal
	Many long crack, Med sev	Slurry/micro or fog/coal tar seal or crack seal	Chip/cape seal
Asphalt	Many long crack, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Trans crack, 50ft apart, Low sev	Crack seal/fill	Do nothing
	Trans crack, 50ft apart, Med sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	AC overlay/mill+overlay	Crack seal/fill
	Trans crack, 20ft apart, Low sev	Crack seal/fill	Fog/coal tar seal
	Trans crack, 20ft apart, Med sev	Chip/cape seal	AC overlay/mill+overlay
	Trans crack, 20ft apart, Hi sev	Chip/cape seal	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing or Crack seal/fill	Fog/coal tar seal
	Block crack, Med sev	Crack seal/fill	Chip/cape seal
	Block crack, Hi sev	Crack seal/fill	AC overlay/mill+overlay

<i>Dry – No Freeze – Cracking</i>			
Local	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Do nothing	Crack seal/fill
	Few edge crack, Med sev	Do nothing	Crack seal/fill
	Few edge crack, Hi sev	Patch/recon area	Crack seal/fill
	Reflection crack, Low sev	Do nothing	Crack seal/fill
	Reflection crack, Med sev	Do nothing	Crack seal/fill
Asphalt	Reflection crack, Hi sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Low sev	Crack seal/fill	Do nothing
	Fatigue crack, 10%, Med sev	Do nothing or crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Fatigue crack, 30%, Low sev	Patch/recon area	AC overlay/mill+overlay
	Fatigue crack, 30%, Med sev	AC overlay/mill+overlay or patch/recon area	Rehab/recon
	Fatigue crack, 30%, Hi sev	AC overlay/mill+overlay or patch/recon area	Rehab/recon



<i>Dry – No Freeze – Surface Distress</i>			
Local	Distress	Acceptable	Recommended
	Start to weather	Slurry/micro or chip/cape seal	Fog/coal tar seal
	Definitely weather	Slurry/micro or chip/cape seal	Fog/coal tar seal
	Starting to ravel	Slurry/micro or chip/cape seal	Fog/coal tar seal
	Definitely ravel	Slurry/micro or chip/cape seal	Fog/coal tar seal
	Patch, 10%, Low sev	Crack seal/fill	Do nothing
Asphalt	Patch, 10%, Med sev	Do nothing	Patch/recon area
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Slurry/micro or chip/cape seal	Do nothing
	Patch, 30%, Med sev	Slurry/micro or fog/coal tar seal	Chip/cape seal
	Patch, 30%, Hi sev	Patch/recon area or rehab/recon	AC overlay/mill+overlay
	Rough, Long Wave Swell	Patch/recon area	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay

<i>Wet – Freeze – Cracking</i>			
Regional	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Crack seal/fill	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill or AC overlay/mill+overlay	Patch/recon area
	Many long crack, Low sev	Do nothing	Crack seal/fill
	Many long crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
Asphalt	Many long crack, Hi sev	AC overlay/mill+overlay	Rehab/recon
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Rejuvenator, fog/coal tar seal	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Crack seal/fill	Patch/recon area
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	AC overlay/mill+overlay	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Chip/cape seal	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	Chip/cape seal	Crack seal/fill
	Block crack, Hi sev	Rehab/recon	AC overlay/mill+overlay

Wet – Freeze – Cracking

Regional	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Do nothing	Crack seal/fill
	Few edge crack, Med sev	Patch/recon area	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill	Patch/recon area
	Reflection crack, Low sev	Do nothing	Crack seal/fill
	Reflection crack, Med sev	Crack seal/fill	Crack seal/fill
	Reflection crack, Hi sev	Rehab/recon	Patch/recon area
	Fatigue crack, 10%, Low sev	Patch/recon area	Crack seal/fill
	Fatigue crack, 10%, Med sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
Asphalt	Fatigue crack, 30%, Low sev	Patch/recon area	AC overlay/mill+overlay
	Fatigue crack, 30%, Med sev	Patch/recon area	AC overlay/mill+overlay
	Fatigue crack, 30%, Hi sev	Patch/recon area	Rehab/recon

<i>Wet – Freeze – Surface Distress</i>			
Regional	Distress	Acceptable	Recommended
	Start to weather	Slurry/micro or fog/coal tar seal	Rejuvenator
	Definitely weather	Fog/coal tar seal or rejuvenator	Slurry/micro
	Starting to ravel	Fog/coal tar seal or rejuvenator	Slurry/micro
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Crack seal/fill	Patch/recon area
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Slurry/micro	Do nothing
	Patch, 30%, Med sev	Patch/recon area	AC overlay/mill+overlay
	Patch, 30%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Rough, Long Wave Swell	AC overlay/mill+overlay	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay

<i>Wet – No Freeze – Cracking</i>			
Regional	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Do nothing	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Do nothing	Crack seal/fill
	Many long crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
Asphalt	Many long crack, Hi sev	Patch/recon area	AC overlay/mill+overlay
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Crack seal/fill	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Patch/recon area	Crack seal/fill
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	AC overlay/mill+overlay	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Chip/cape seal	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
	Block crack, Hi sev	Rehab/recon	AC overlay/mill+overlay

<i>Wet – No Freeze – Cracking</i>			
Regional	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Crack seal/fill	Do nothing
	Few edge crack, Med sev	Patch/recon area	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill	Patch/recon area
	Reflection crack, Low sev	Crack seal/fill	Do nothing
	Reflection crack, Med sev	Crack seal/fill	Crack seal/fill
Asphalt	Reflection crack, Hi sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Low sev	Crack seal/fill	Do nothing
	Fatigue crack, 10%, Med sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Hi sev	AC Overlay/mill+ overlay or patch/recon area	Patch/recon area
	Fatigue crack, 30%, Low sev	Patch/recon area	AC overlay/mill+overlay
	Fatigue crack, 30%, Med sev	AC overlay/mill+overlay	Patch/recon area
	Fatigue crack, 30%, Hi sev	Patch/recon area	Rehab/recon

<i>Wet – No Freeze – Surface Distress</i>			
Regional	Distress	Acceptable	Recommended
	Start to weather	Fog/coal tar seal	Rejuvenator
	Definitely weather	Rejuvenator	Slurry/micro
	Starting to ravel	Rejuvenator	Slurry/micro
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
	Patch, 10%, Low sev	Crack seal/fill	Do nothing
Asphalt	Patch, 10%, Med sev	Crack seal/fill	Patch/recon area
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Slurry/micro or chip/cape seal	Do nothing
	Patch, 30%, Med sev	Patch/recon area	AC overlay/mill+overlay
	Patch, 30%, Hi sev	AC overlay/mill+overlay	Rehab/recon
	Rough, Long Wave Swell	AC overlay/mill+overlay	Do nothing
	Rough, Many Long Wave Swell	AC overlay/mill+overlay or do nothing	Patch/recon area
	Rough, Many Short Wave Bump	AC overlay/mill+overlay	Patch/recon area

<i>Dry – Freeze – Cracking</i>			
Regional	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Crack seal/fill	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Do nothing	Crack seal/fill
	Many long crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
Asphalt	Many long crack, Hi sev	Crack seal/fill	Rehab/recon
	Trans crack, 50ft apart, Low sev	Crack seal/fill	Do nothing
	Trans crack, 50ft apart, Med sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	AC overlay/mill+overlay	Crack seal/fill
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	Chip/cape seal or AC overlay/mill+ overlay	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Chip/cape seal or AC overlay/mill+ overlay	Crack seal/fill
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	Chip/cape seal	Crack seal/fill
	Block crack, Hi sev	Chip/cape seal or AC overlay/mill+overlay	Rehab/recon



Dry – Freeze – Cracking

Regional

Distress

Acceptable

Recommended

Few edge crack, Low sev

Crack seal/fill

Do nothing

Few edge crack, Med sev

Patch/recon area

Crack seal/fill

Few edge crack, Hi sev

Patch/recon area

AC overlay/mill+overlay

Reflection crack, Low sev

Crack seal/fill

Do nothing

Reflection crack, Med sev

Crack seal/fill

Crack seal/fill

Reflection crack, Hi sev

Patch/recon area

Rehab/recon

Asphalt

Fatigue crack, 10%, Low sev

Patch/recon area

Crack seal/fill

Fatigue crack, 10%, Med sev

Crack seal/fill

Patch/recon area

Fatigue crack, 10%, Hi sev

AC overlay/mill+overlay

Patch/recon area

Fatigue crack, 30%, Low sev

AC overlay/mill+overlay

Patch/recon area

Fatigue crack, 30%, Med sev

Patch/recon area

Rehab/recon

Fatigue crack, 30%, Hi sev

Patch/recon area

Rehab/recon

<i>Dry – Freeze – Surface Distress</i>			
Regional	Distress	Acceptable	Recommended
	Start to weather	Do nothing	Slurry/micro, fog/coal tar seal, rejuvenator
	Definitely weather	Slurry/micro	Rejuvenator
	Starting to ravel	AC overlay/mill+overlay	Slurry/micro or Chip/cape seal
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Crack seal/fill	Do nothing
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	AC overlay/mill+overlay	Do nothing
	Patch, 30%, Med sev	Chip/cape seal or AC overlay/mill+overlay	AC overlay/mill+overlay
Asphalt	Patch, 30%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Rough, Long Wave Swell	Do nothing	AC overlay/mill+overlay
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay



Dry – No Freeze – Cracking

Regional

Distress**Acceptable****Recommended**

Few long crack, Low sev

Do nothing

Crack seal/fill

Few long crack, Med sev

Crack seal/fill

Crack seal/fill

Few long crack, Hi sev

Crack seal/fill

Patch/recon area

Many long crack, Low sev

Do nothing

Crack seal/fill

Many long crack, Med sev

Crack seal/fill

Crack seal/fill

Many long crack, Hi sev

Crack seal/fill

AC overlay/mill+overlay

Asphalt

Trans crack, 50ft apart, Low sev

Do nothing

Crack seal/fill

Trans crack, 50ft apart, Med sev

Do nothing

Crack seal/fill

Trans crack, 50ft apart, Hi sev

Crack seal/fill

Patch/recon area

Trans crack, 20ft apart, Low sev

Do nothing

Crack seal/fill

Trans crack, 20ft apart, Med sev

Crack seal/fill or AC overlay/mill+overlay

Crack seal/fill

Trans crack, 20ft apart, Hi sev

Crack seal/fill

AC overlay/mill+overlay

Block crack, Low sev

Do nothing

Crack seal/fill

Block crack, Med sev

Chip/cape seal

Crack seal/fill

Block crack, Hi sev

Chip/cape seal

AC overlay/mill+overlay

<i>Dry – No Freeze – Cracking</i>			
Regional	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Do nothing	Crack seal/fill
	Few edge crack, Med sev	Patch/recon area	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill	Patch/recon area
	Reflection crack, Low sev	Do nothing	Crack seal/fill
	Reflection crack, Med sev	Crack seal/fill	Crack seal/fill
Asphalt	Reflection crack, Hi sev	Rehab/recon	Patch/recon area
	Fatigue crack, 10%, Low sev	Do nothing	Crack seal/fill
	Fatigue crack, 10%, Med sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Hi sev	Rehab/recon	Patch/recon area
	Fatigue crack, 30%, Low sev	Patch/recon area	AC overlay/mill+overlay
	Fatigue crack, 30%, Med sev	Patch/recon area	AC overlay/mill+overlay
	Fatigue crack, 30%, Hi sev	Patch/recon area	Rehab/recon



Dry – No Freeze – Surface Distress

Regional	Distress	Acceptable	Recommended
	Start to weather	Slurry/micro	Rejuvenator
	Definitely weather	Chip/cape seal	Fog/coal tar seal
	Starting to ravel	Chip/cape seal	Slurry/micro
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
	Patch, 10%, Low sev	Do nothing	Crack seal/fill
	Patch, 10%, Med sev	Crack seal/fill	Patch/recon area
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Slurry/micro	Do nothing
	Patch, 30%, Med sev	Chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 30%, Hi sev	AC overlay/mill+overlay	Rehab/recon
	Rough, Long Wave Swell	AC overlay/mill+overlay	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	AC overlay/mill+overlay

	<i>Wet – Freeze – Cracking</i>		
	Distress	Acceptable	Recommended
National	Few long crack, Low sev	Do nothing	Crack seal/ fill
	Few long crack, Med sev	Crack seal/fill	Crack seal/ fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Do nothing	Crack seal/ fill
	Many long crack, Med sev	AC overlay/mill+overlay	Crack seal/ fill
	Many long crack, Hi sev	AC overlay/mill+overlay	Rehab or Reconstruct
Asphalt	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/ fill
	Trans crack, 50ft apart, Med sev	Crack seal/fill	Crack seal/ fill
	Trans crack, 50ft apart, Hi sev	Crack seal/ fill	Patch/recon area
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/ fill
	Trans crack, 20ft apart, Med sev	AC overlay/mill+overlay	Crack seal/ fill
	Trans crack, 20ft apart, Hi sev	Crack seal/ fill,or Chip/cape seal	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing, Chip/cape seal	Crack seal/ fill
	Block crack, Med sev	Chip/cape seal or AC overlay/mill+overlay	Crack seal/ fill
	Block crack, Hi sev	Chip/cape seal or AC overlay/mill+overlay	Rehab or Reconstruct

Wet – Freeze – Cracking

National

Distress

Acceptable

Recommended

Few edge crack, Low sev

Crack seal/ fill

Do nothing

Few edge crack, Med sev

Patch/recon area

Crack seal/ fill

Few edge crack, Hi sev

Crack seal/fill

Patch/recon area

Reflection crack, Low sev

Do nothing

Crack seal/ fill

Reflection crack, Med sev

Crack seal/fill

Crack seal/ fill

Reflection crack, Hi sev

Patch/recon area

Rehab or Reconstruct

Asphalt

Fatigue crack, 10%, Low sev

Crack seal/fill

Patch/recon area

Fatigue crack, 10%, Med sev

Crack seal/fill

Patch/recon area

Fatigue crack, 10%, Hi sev

Rehab/recon

Patch/recon area

Fatigue crack, 30%, Low sev

Patch/recon area

Rehab or Reconstruct

Fatigue crack, 30%, Med sev

Patch/recon area

Rehab or Reconstruct

Fatigue crack, 30%, Hi sev

Patch/recon area

Rehab or Reconstruct

<i>Wet – Freeze – Surface Distress</i>			
National	Distress	Acceptable	Recommended
	Start to weather	Do nothing	Rejuvenator or fog/coal tar seal
	Definitely weather	Rejuvenator or fog/coal tar seal	Slurry/micro
	Starting to ravel	Rejuvenator or fog/coal tar seal	Slurry/micro
	Definitely ravel	Chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Crack seal/fill	Patch/recon area
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Slurry/micro or chip/cape seal	Do nothing
	Patch, 30%, Med sev	Chip/cape seal	AC overlay/mill+overlay
	Patch, 30%, Hi sev	AC overlay/mill+ overlay or patch/recon area	Rehab or Reconstruct
	Rough, Long Wave Swell	Patch/recon area	AC overlay/mill+ overlay or do nothing
	Rough, Many Long Wave Swell	Rehab or Reconstruct	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	AC overlay/mill+overlay	Patch/recon area

Wet – No Freeze – Cracking

National

Distress**Acceptable****Recommended**

Few long crack, Low sev

Do nothing

Crack seal/fill

Few long crack, Med sev

Crack seal/fill

Crack seal/fill

Few long crack, Hi sev

Crack seal/fill

Patch/recon area

Many long crack, Low sev

Rejuvenator, fog/coal tar seal

Crack seal/fill

Many long crack, Med sev

AC overlay/mill+overlay

Crack seal/fill

Many long crack, Hi sev

AC overlay/mill+overlay

Patch/recon area

Asphalt

Trans crack, 50ft apart, Low sev

Do nothing

Crack seal/fill

Trans crack, 50ft apart, Med sev

Crack seal/fill

Crack seal/fill

Trans crack, 50ft apart, Hi sev

AC overlay/mill+overlay

Patch/recon area

Trans crack, 20ft apart, Low sev

Do nothing

Crack seal/fill

Trans crack, 20ft apart, Med sev

AC overlay/mill+overlay

Crack seal/fill

Trans crack, 20ft apart, Hi sev

Crack seal/fill

AC overlay/mill+overlay

Block crack, Low sev

Do nothing, chip/cape seal

Crack seal/fill

Block crack, Med sev

AC overlay/mill+overlay

Crack seal/fill

Block crack, Hi sev

AC overlay/mill+overlay

Rehab/recon

<i>Wet – No Freeze – Cracking</i>			
National	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Do nothing	Crack seal/fill
	Few edge crack, Med sev	Patch/recon area	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill	Patch/recon area
	Reflection crack, Low sev	Do nothing	Crack seal/fill
	Reflection crack, Med sev	Crack seal/fill	Crack seal/fill
Asphalt	Reflection crack, Hi sev	Patch/recon area	Rehab/recon
	Fatigue crack, 10%, Low sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Med sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 10%, Hi sev	AC overlay/mill+overlay	Rehab/recon
	Fatigue crack, 30%, Low sev	AC overlay/mill+overlay or patch/recon area	Rehab/recon
	Fatigue crack, 30%, Med sev	AC overlay/mill+overlay or patch/recon area	Rehab/recon
	Fatigue crack, 30%, Hi sev	Patch/recon area	Rehab/recon



Wet – No Freeze – Surface Distress

National

Distress**Acceptable****Recommended**

Start to weather

Fog/coal tar seal

Rejuvenator

Definitely weather

Rejuvenator or fog/coal tar seal

Slurry/micro

Starting to ravel

Rejuvenator or fog/coal tar seal

Slurry/micro

Definitely ravel

Slurry/micro or chip/cape seal

AC overlay/mill+overlay

Patch, 10%, Low sev

Crack seal/fill

Do nothing

Patch, 10%, Med sev

Crack seal/fill

Patch/recon area

Patch, 10%, Hi sev

AC overlay/mill+overlay

Patch/recon area

Asphalt

Patch, 30%, Low sev

Slurry/micro or cape/chip seal

Do nothing

Patch, 30%, Med sev

Cape/Chip seal

AC overlay/mill+overlay

Patch, 30%, Hi sev

AC overlay/mill+overlay

Rehab/recon

Rough, Long Wave Swell

AC overlay/mill+overlay

Do nothing

Rough, Many Long Wave Swell

Patch/recon area

AC overlay/mill+overlay

Rough, Many Short Wave Bump

Patch/recon area

AC overlay/mill+overlay

<i>Dry – Freeze – Cracking</i>			
National	Distress	Acceptable	Recommended
	Few long crack, Low sev	Do nothing	Crack seal/fill
	Few long crack, Med sev	Crack seal/fill	Crack seal/fill
	Few long crack, Hi sev	Crack seal/fill	Patch/recon area
	Many long crack, Low sev	Do nothing	Crack seal/fill
	Many long crack, Med sev	AC overlay/mill+overlay	Crack seal/fill
Asphalt	Many long crack, Hi sev	AC overlay/mill+overlay	Rehab/recon
	Trans crack, 50ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 50ft apart, Med sev	Crack seal/fill	Crack seal/fill
	Trans crack, 50ft apart, Hi sev	Crack seal/fill	Patch/recon area
	Trans crack, 20ft apart, Low sev	Do nothing	Crack seal/fill
	Trans crack, 20ft apart, Med sev	AC overlay/mill+overlay	Crack seal/fill
	Trans crack, 20ft apart, Hi sev	Crack seal/ fill,or chip/cape seal	AC overlay/mill+overlay
	Block crack, Low sev	Do nothing	Crack seal/fill
	Block crack, Med sev	Crack seal/fill	Chip/cape seal
	Block crack, Hi sev	Chip/cape seal	Rehab/recon



Dry – Freeze – Cracking

National

Distress

Acceptable

Recommended

Few edge crack, Low sev

Crack seal/fill

Do nothing

Few edge crack, Med sev

Patch/recon area

Crack seal/fill

Few edge crack, Hi sev

Crack seal/fill

Patch/recon area

Reflection crack, Low sev

Do nothing

Crack seal/fill

Reflection crack, Med sev

Chip/cape seal or AC overlay or mill+overlay

Crack seal/fill

Reflection crack, Hi sev

Patch/recon area

Rehab/recon

Asphalt

Fatigue crack, 10%, Low sev

Patch/recon area

Crack seal/fill

Fatigue crack, 10%, Med sev

Crack seal/fill

Patch/recon area

Fatigue crack, 10%, Hi sev

Crack seal/fill

Patch/recon area

Fatigue crack, 30%, Low sev

AC overlay/mill+overlay

Patch/recon area

Fatigue crack, 30%, Med sev

AC overlay/mill+overlay

Patch/recon area

Fatigue crack, 30%, Hi sev

Patch/recon area

Rehab/recon

<i>Dry – Freeze – Surface Distress</i>			
National	Distress	Acceptable	Recommended
	Start to weather	Slurry/micro	Rejuvenator or fog/coal tar seal
	Definitely weather	Slurry/micro	Rejuvenator or fog/coal tar seal
	Starting to ravel	Rejuvenator or fog/coal tar seal	Slurry/micro
	Definitely ravel	Slurry/micro or chip/cape seal	AC overlay/mill+overlay
Asphalt	Patch, 10%, Low sev	Crack seal/fill	Do nothing
	Patch, 10%, Med sev	Crack seal/fill	Patch/recon area
	Patch, 10%, Hi sev	AC overlay/mill+overlay	Patch/recon area
	Patch, 30%, Low sev	Crack seal/fill	Do nothing
	Patch, 30%, Med sev	Chip/cape seal	AC overlay/mill+overlay
	Patch, 30%, Hi sev	AC overlay/mill+overlay	Rehab/recon
	Rough, Long Wave Swell	AC overlay/mill+overlay	Do nothing
	Rough, Many Long Wave Swell	Patch/recon area	AC overlay/mill+overlay
	Rough, Many Short Wave Bump	Patch/recon area	Patch/recon area

Dry – No Freeze – Cracking

National

Distress**Acceptable****Recommended**

Few long crack, Low sev

Crack seal/fill

Do nothing

Few long crack, Med sev

Crack seal/fill

Crack seal/fill

Few long crack, Hi sev

Crack seal/fill

Patch/recon area

Many long crack, Low sev

Crack seal/fill

Do nothing

Many long crack, Med sev

Crack seal/fill

AC overlay/mill+overlay

Many long crack, Hi sev

AC overlay/mill+overlay

Rehab/recon

Asphalt

Trans crack, 50ft apart, Low sev

Do nothing

Crack seal/fill

Trans crack, 50ft apart, Med sev

Crack seal/fill

Crack seal/fill

Trans crack, 50ft apart, Hi sev

Crack seal/fill

Patch/recon area

Trans crack, 20ft apart, Low sev

Do nothing

Crack seal/fill

Trans crack, 20ft apart, Med sev

AC overlay/mill+overlay

Crack seal/fill

Trans crack, 20ft apart, Hi sev

Crack seal/fill

AC overlay/mill+overlay

Block crack, Low sev

Do nothing

Crack seal/fill

Block crack, Med sev

Crack seal/fill

Crack seal/fill

Block crack, Hi sev

Rehab/recon

Patch/recon area

<i>Dry – No Freeze – Cracking</i>			
National	Distress	Acceptable	Recommended
	Few edge crack, Low sev	Rejuvenator, fog/coal tar seal	Crack seal/fill
	Few edge crack, Med sev	Patch/recon area	Crack seal/fill
	Few edge crack, Hi sev	Crack seal/fill	Patch/recon area
	Reflection crack, Low sev	Do nothing	Crack seal/fill
	Reflection crack, Med sev	Crack seal/fill or chip/cape seal	Crack seal/fill
Asphalt	Reflection crack, Hi sev	Patch/recon area	Rehab/recon
	Fatigue crack, 10%, Low sev	Patch/recon area	Crack seal/fill
	Fatigue crack, 10%, Med sev	Patch/recon area	Crack seal/fill
	Fatigue crack, 10%, Hi sev	Crack seal/fill	Patch/recon area
	Fatigue crack, 30%, Low sev	AC overlay/mill+overlay	Patch/recon area
	Fatigue crack, 30%, Med sev	AC overlay/mill+overlay	Patch/recon area
	Fatigue crack, 30%, Hi sev	Rehab/recon	Patch/recon area



Dry – No Freeze – Surface Distress

National

Distress**Acceptable****Recommended**

Start to weather

Fog/coal tar seal or slurry/micro

Rejuvenator

Definitely weather

Fog/coal tar seal

Slurry/micro

Starting to ravel

Slurry/micro

Fog/coal tar seal

Definitely ravel

Slurry/micro or chip/cape seal

AC overlay/mill+overlay

Patch, 10%, Low sev

Crack seal/fill

Do nothing

Patch, 10%, Med sev

Crack seal/fill

Patch/recon area

Patch, 10%, Hi sev

AC overlay/mill+overlay

Patch/recon area

Asphalt

Patch, 30%, Low sev

Crack seal/fill

Do nothing

Patch, 30%, Med sev

Chip/cape seal

Rehab/recon

Patch, 30%, Hi sev

AC overlay/mill+overlay

Rehab/recon

Rough, Long Wave Swell

AC overlay/mill+overlay

Do nothing

Rough, Many Long Wave Swell

Patch/recon area

AC overlay/mill+overlay

Rough, Many Short Wave Bump

Patch/recon area

AC overlay/mill+overlay

Asphalt Maintenance Treatment Hierarchy

First Treatment

Second Treatment

Treatment	Do Nothing	Crack Seal/ Fill	Rejuvenator
Do nothing	Do nothing	Crack seal/ fill	Rejuvenator
Crack seal/ fill	Crack seal/ fill	Crack seal/ fill	Both
Rejuvenator	Rejuvenator	Both	Rejuvenator
Fog/coal tar seal	Fog/coal tar seal	Both	Fog/coal tar seal
Slurry/micro	Slurry/micro	Both	Slurry/micro
Chip/cape seal	Chip/cape seal	Both	Chip/cape seal
AC overlay/ mill+ overlay	AC overlay/ mill+ overlay	AC overlay/ mill+ overlay	AC overlay/ mill+ overlay
Patch/reconstruct area	Patch/reconstruct area	Both	Both
Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct

Asphalt Maintenance Treatment Hierarchy

First Treatment

Second Treatment

Treatment	Fog/Coal Tar Seal	Slurry/Micro	Chip/Cape Seal
Do nothing	Fog/coal tar seal	Slurry/micro	Chip/cape seal
Crack seal/ fill	Both	Both	Both
Rejuvenator	Fog/coal tar seal	Slurry/micro	Chip/cape seal
Fog/coal tar seal	Fog/coal tar seal	Slurry/micro	Chip/cape seal
Slurry/micro	Slurry/micro	Slurry/micro	Chip/cape seal
Chip/cape seal	Chip/cape seal	Chip/cape seal	Chip/cape seal
AC overlay/ mill+ overlay	AC overlay/mill+ overlay	AC overlay/mill+ overlay	AC overlay/mill+ overlay
Patch/reconstruct area	Both	Both	Both
Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct

Asphalt Maintenance Treatment Hierarchy

First Treatment

Second Treatment

Treatment	AC Overlay/Mill+ Overlay	Patch/Reconstruct Area	Rehab/Reconstruct
Do nothing	AC overlay/mill+ overlay	Patch/reconstruct area	Rehab/reconstruct
Crack seal/fill	Both	Both	Rehab/reconstruct
Rejuvenator	AC overlay/mill+ overlay	Both	Rehab/reconstruct
Fog/coal tar seal	AC overlay/mill+ overlay	Both	Rehab/reconstruct
Slurry/micro	AC overlay/mill+ overlay	Both	Rehab/reconstruct
Chip/cape seal	AC overlay/mill+ overlay	Both	Rehab/reconstruct
AC overlay/ mill+ overlay	AC overlay/mill+ overlay	Both	Rehab/reconstruct
Patch/reconstruct area	Both	Patch/reconstruct area	Rehab/reconstruct
Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct

Concrete Pavement Treatment Tables

	<i>Wet – Freeze – Joint Problems</i>		
	Distress	Acceptable	Recommended
Basic	Joint Seal, Still Good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Do nothing
	Joint Seal Med sev	Do nothing	Crack/joint seal
Concrete	Joint Seal High sev	Crack/joint seal	Crack/joint seal
	Joint/Corner Spall Low sev	Crack/joint seal	Do nothing
	Joint/Corner Spall Med sev	Crack/joint seal	Do nothing
	Joint/Corner Spall High sev	Crack/joint seal	Partial depth repair

Wet – Freeze – Cracking

Basic

Distress**Acceptable****Recommended**

Mid-Panel Crack, 20% slab, Low sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 20% slab, Med sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 20% slabs, Hi sev

Partial depth repair

Full-depth repair (local)

Mid-Panel Crack, 40% slab, Low sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 40% slab, Med sev

Crack/joint seal

Full-depth repair (local)

Mid-Panel Crack, 40% slab, Hi sev

Rehab/reconstruct

Full-depth repair (local)

Concrete

Corner Brk, 10% slab, Low sev

Crack/joint seal

Do nothing

Corner Brk, 10% slab, Mod sev

Do nothing

Crack/joint seal

Corner Brk, 10% slab, Hi sev

Full-depth repair (local)

Full-depth repair (local)

Corner Brk, 30% slab, Low sev

Crack/joint seal

Do nothing

Corner Brk, 30% slab, Mod sev

Full-depth repair

Crack/joint seal

Corner Brk, 30% slab, Hi sev

Crack/joint seal

Full-depth repair (local)

10% Shattered, Low sev

Crack/joint seal

Do nothing

10% Shattered, Mod sev

Full-depth repair (local)

Crack/joint seal

10% Shattered, Hi sev

Full-depth repair (local)

Full-depth repair (local)

30% Shattered, Low sev

Crack/joint seal

Do nothing

30% Shattered, Mod sev

Full-depth repair (local)

Crack/joint seal

30% Shattered, Hi sev

Full-depth repair (local)

Full-depth repair (local)

<i>Wet – Freeze – Surface Distress</i>			
Basic	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Do nothing	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
Concrete	50% slabs, Patches Med sev	Full-depth repair (local)	Partial depth repair
	50% slabs, Patches Hi sev	Full-depth repair (local)	Partial depth repair
	10% slabs, Fault Low sev	Do nothing	Do nothing
	10% slabs, Fault Med sev	Do nothing	Crack/joint seal
	10% slabs, Fault Hi sev	Grinding/grooving	Slab stabilization/jacking/underseal
	30% slabs, Fault Low sev	Crack/joint seal	Do nothing
	30% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Hi sev	Grinding/grooving	Rehab/reconstruct

<i>Wet – No Freeze – Joint Problems</i>			
Basic	Distress	Acceptable	Recommended
	Joint Seal, Still Good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Do nothing	Crack/joint seal
Concrete	Joint Seal High sev	Crack/joint seal	Crack/joint seal
	Joint/Corner Spall Low sev	Do nothing	Crack/joint seal
	Joint/Corner Spall Med sev	Do nothing	Crack/joint seal
	Joint/Corner Spall High sev	Partial depth repair	Crack/joint seal

Wet – No Freeze – Cracking			
Basic	Distress	Acceptable	Recommended
	Mid-Panel Crack, 20% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 20% slab, Med sev	Crack/joint seal	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Crack/joint seal	Full-depth repair (local)
	Mid-Panel Crack, 40% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 40% slab, Med sev	Crack/joint seal or full-depth repair	Rehab/reconstruct
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Full-depth repair	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 10% slab, Mod sev	Do nothing	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Crack/joint seal	Full-depth repair (local)
	Corner Brk, 30% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 30% slab, Mod sev	Full-depth repair or do nothing	Crack/joint seal
	Corner Brk, 30% slab, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	10% Shattered, Low sev	Crack/joint seal	Crack/joint seal
	10% Shattered, Mod sev	Crack/joint seal	Full-depth repair (local)
	10% Shattered, Hi sev	Concrete/asphalt overlay	Full-depth repair (local)
	30% Shattered, Low sev	Do nothing	Crack/joint seal
	30% Shattered, Mod sev	Crack/joint seal	Full-depth repair (local)
	30% Shattered, Hi sev	Concrete/asphalt overlay	Full-depth repair (local)



	<i>Wet – No Freeze – Surface Distress</i>		
	Distress	Acceptable	Recommended
Basic	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Do nothing	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
Concrete	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	10% slabs, Fault Low sev	Do nothing	Crack/joint seal
	10% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Crack/joint seal
	10% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Low sev	Slab stabilization/jacking/underseal or crack/joint seal	Do nothing
	30% slabs, Fault Med sev	Slab stabilization/jacking/underseal or crack/joint seal	Grinding/grooving
	30% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Grinding/grooving

<i>Dry – Freeze – Joint Problems</i>			
Basic	Distress	Acceptable	Recommended
	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Do nothing
	Joint Seal Med sev	Do nothing	Crack/joint seal
Concrete	Joint Seal High sev	Crack/joint seal	Crack/joint seal
	Joint/Corner Spall Low sev	Crack/joint seal	Do nothing
	Joint/Corner Spall Med sev	Crack/joint seal	Do nothing
	Joint/Corner Spall High sev	Crack/joint seal	Partial depth repair



Dry – Freeze – Cracking

Basic

Distress

Acceptable

Recommended

Mid-Panel Crack, 20% slab, Low sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 20% slab, Med sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 20% slabs, Hi sev

Partial depth repair

Full-depth repair (local)

Mid-Panel Crack, 40% slab, Low sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 40% slab, Med sev

Crack/joint seal

Full-depth repair (local)

Mid-Panel Crack, 40% slab, Hi sev

Rehab/reconstruct

Full-depth repair (local)

Concrete

Corner Brk, 10% slab, Low sev

Crack/joint seal

Do nothing

Corner Brk, 10% slab, Mod sev

Do nothing

Crack/joint seal

Corner Brk, 10% slab, Hi sev

Full-depth repair (local)

Full-depth repair (local)

Corner Brk, 30% slab, Low sev

Crack/joint seal

Do nothing

Corner Brk, 30% slab, Mod sev

Full-depth repair

Crack/joint seal

Corner Brk, 30% slab, Hi sev

Crack/joint seal

Full-depth repair (local)

10% Shattered, Low sev

Crack/joint seal

Do nothing

10% Shattered, Mod sev

Full-depth repair (local)

Crack/joint seal

10% Shattered, Hi sev

Full-depth repair (local)

Full-depth repair (local)

30% Shattered, Low sev

Crack/joint seal

Do nothing

30% Shattered, Mod sev

Full-depth repair (local)

Crack/joint seal

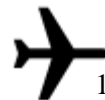
30% Shattered, Hi sev

Full-depth repair (local)

Full-depth repair (local)

<i>Dry – Freeze – Surface Distress</i>			
Basic	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Do nothing	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Full-depth repair (local)	Partial depth repair
Concrete	50% slabs, Patches Hi sev	Full-depth repair (local)	Partial depth repair
	10% slabs, Fault Low sev	Do nothing	Do nothing
	10% slabs, Fault Med sev	Do nothing	Crack/joint seal
	10% slabs, Fault Hi sev	Grinding/grooving	Slab stabilization/jacking/underseal
	30% slabs, Fault Low sev	Crack/joint seal	Do nothing
	30% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Hi sev	Grinding/grooving	Rehab/reconstruct





Dry – No Freeze – Joint Problems

Basic

Distress**Acceptable****Recommended**

Joint seal, still good

Do nothing

Do nothing

Joint Seal Low sev

Do nothing

Do nothing

Joint Seal Med sev

Do nothing

Crack/joint seal

Joint Seal High sev

Crack/joint seal

Crack/joint seal

Concrete

Joint/Corner Spall Low sev

Crack/joint seal

Do nothing

Joint/Corner Spall Med sev

Crack/joint seal

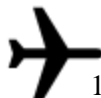
Do nothing

Joint/Corner Spall High sev

Crack/joint seal

Partial depth repair

	<i>Dry – No Freeze – Cracking</i>		
	Distress	Acceptable	Recommended
Basic	Mid-Panel Crack, 20% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 20% slab, Med sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 20% slabs, Hi sev	Partial depth repair	Full-depth repair (local)
	Mid-Panel Crack, 40% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 40% slab, Med sev	Crack/joint seal	Full-depth repair (local)
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Rehab/reconstruct	Full-depth repair (local)
	Corner Brk, 10% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 10% slab, Mod sev	Do nothing	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	Corner Brk, 30% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 30% slab, Mod sev	Full-depth repair	Crack/joint seal
	Corner Brk, 30% slab, Hi sev	Crack/joint seal	Full-depth repair (local)
	10% Shattered, Low sev	Crack/joint seal	Do nothing
	10% Shattered, Mod sev	Full-depth repair (local)	Crack/joint seal
	10% Shattered, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	30% Shattered, Low sev	Crack/joint seal	Do nothing
	30% Shattered, Mod sev	Full-depth repair (local)	Crack/joint seal
	30% Shattered, Hi sev	Full-depth repair (local)	Full-depth repair (local)





<i>Dry – No Freeze – Surface Distress</i>			
	Distress	Acceptable	Recommended
Basic	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Do nothing	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Partial depth repair	Full-depth repair (local)
Concrete	50% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	10% slabs, Fault Low sev	Do nothing	Crack/joint seal
	10% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Crack/joint seal
	10% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Low sev	Slab stabilization/jacking/underseal or crack/joint seal	Do nothing
	30% slabs, Fault Med sev	Slab stabilization/jacking/underseal or crack/joint seal	Grinding/grooving
	30% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Grinding/grooving

<i>Wet – Freeze – Joint Problems</i>			
Local	Distress	Acceptable	Recommended
	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Do nothing	Crack/joint seal
Concrete	Joint Seal High sev	Crack/joint seal	Crack/joint seal
	Joint/Corner Spall Low sev	Partial depth repair or crack/joint seal	Do nothing
	Joint/Corner Spall Med sev	Partial depth repair	Crack/joint seal
	Joint/Corner Spall High sev	Crack/joint seal	Partial depth repair





Wet – Freeze – Cracking

Local

Distress**Acceptable****Recommended**

Mid-Panel Crack, 20% slab, Low sev

Do nothing

Crack/joint seal

Mid-Panel Crack, 20% slab, Med sev

Crack/joint seal

Partial depth repair

Mid-Panel Crack, 20% slabs, Hi sev

Full-depth repair (local)

Partial depth repair

Mid-Panel Crack, 40% slab, Low sev

Do nothing

Crack/joint seal

Mid-Panel Crack, 40% slab, Med sev

Concrete/asphalt overlay or partial depth repair

Crack/joint seal

Mid-Panel Crack, 40% slab, Hi sev

Full-depth repair (local)

Partial depth repair

Concrete

Corner Brk, 10% slab, Low sev

Do nothing

Crack/joint seal

Corner Brk, 10% slab, Mod sev

Full-depth repair (local)

Crack/joint seal

Corner Brk, 10% slab, Hi sev

Full-depth repair (local)

Full-depth repair (local)

Corner Brk, 30% slab, Low sev

Do nothing or Full-depth repair (local)

Crack/joint seal

Corner Brk, 30% slab, Mod sev

Crack/joint seal

Full-depth repair (local)

Corner Brk, 30% slab, Hi sev

Full-depth repair (local)

Full-depth repair (local)

10% Shattered, Low sev

Do nothing

Crack/joint seal

10% Shattered, Mod sev

Crack/joint seal

Full-depth repair (local)

10% Shattered, Hi sev

Full-depth repair (local)

Full-depth repair (local)

30% Shattered, Low sev

Do nothing

Crack/joint seal

30% Shattered, Mod sev

Crack/joint seal

Full-depth repair (local)

30% Shattered, Hi sev

Full-depth repair (local)

Full-depth repair (local)

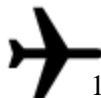
<i>Wet – Freeze – Surface Distress</i>			
Local	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Do nothing	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Full-depth repair (local)	Partial depth repair
Concrete	50% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	10% slabs, Fault Low sev	Do nothing	Do nothing
	10% slabs, Fault Med sev	Do nothing	Slab stabilization/jacking/underseal
	10% slabs, Fault Hi sev	Full-depth repair (local)	Full-depth repair (local)
	30% slabs, Fault Low sev	Do nothing	Do nothing
	30% slabs, Fault Med sev	Do nothing	Slab stabilization/jacking/underseal
	30% slabs, Fault Hi sev	Full-depth repair (local)	Rehab/reconstruct

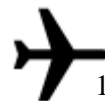




Local	<i>Wet – No Freeze – Joint Problems</i>		
	Distress	Acceptable	Recommended
Concrete	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Crack/joint seal	Crack/joint seal
	Joint Seal High sev	Crack/joint seal	Crack/joint seal
	Joint/Corner Spall Low sev	Crack/joint seal	Do nothing
	Joint/Corner Spall Med sev	Crack/joint seal or do nothing	Partial depth repair
	Joint/Corner Spall Hi sev	Crack/joint seal	Partial depth repair

Local	Wet – No Freeze – Cracking		
	Distress	Acceptable	Recommended
	Mid-Panel Crack, 20% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 20% slab, Med sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Crack/joint seal	Partial depth repair
	Mid-Panel Crack, 40% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 40% slab, Med sev	Partial depth repair	Crack/joint seal
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Crack/joint seal	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 10% slab, Mod sev	Full-depth repair (local)	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Crack/joint seal	Full-depth repair (local)
	Corner Brk, 30% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 30% slab, Mod sev	Full-depth repair or do nothing	Crack/joint seal
	Corner Brk, 30% slab, Hi sev	Full-depth repair (local)	Rehab/reconstruct
	10% Shattered, Low sev	Full-depth repair or do nothing	Crack/joint seal
	10% Shattered, Mod sev	Crack/joint seal	Full-depth repair (local)
	10% Shattered, Hi sev	Concrete/asphalt overlay	Full-depth repair (local)
	30% Shattered, Low sev	Do nothing	Crack/joint seal
	30% Shattered, Mod sev	Rehab/reconstruct	Full-depth repair (local)
	30% Shattered, Hi sev	Concrete/asphalt overlay	Rehab/reconstruct





Wet – No Freeze – Surface Distress

Local

Concrete

Distress**Acceptable****Recommended**

30% slabs, Patches Low sev

Do nothing

Do nothing

30% slabs, Patches Med sev

Partial depth repair or do nothing

Do nothing

30% slabs, Patches Hi sev

Partial depth repair or do nothing

Full-depth repair (local)

50% slabs, Patches Low sev

Do nothing

Do nothing

50% slabs, Patches Med sev

Concrete/asphalt overlay or do nothing

Partial depth repair

50% slabs, Patches Hi sev

Rehab/reconstruct

Concrete/asphalt overlay

10% slabs, Fault Low sev

Do nothing

Partial depth repair

10% slabs, Fault Med sev

Slab stabilization/jacking/underseal or do nothing

Partial depth repair
Crossstitching/dowelbar retrofit

10% slabs, Fault Hi sev

Slab stabilization/jacking/underseal

30% slabs, Fault Low sev

Full-depth repair (local)

Concrete/asphalt overlay

30% slabs, Fault Med sev

Rehab/reconstruct

Concrete/asphalt overlay

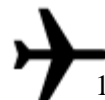
30% slabs, Fault Hi sev

Concrete/Asphalt overlay

Rehab/reconstruct

<i>Dry – Freeze – Joint Problems</i>	
Local	Distress
	Acceptable
	Recommended
Concrete	Joint seal, still good
	Do nothing
	Do nothing
	Do nothing
	Crack/joint seal
	Crack/joint seal
Concrete	Joint Seal Low sev
	Do nothing
	Crack/joint seal
	Crack/joint seal
Concrete	Joint Seal Med sev
	Do nothing
	Crack/joint seal
	Crack/joint seal
Concrete	Joint Seal High sev
	Crack/joint seal
	Crack/joint seal
	Crack/joint seal
Concrete	Joint/Corner Spall Low sev
	Partial depth repair or crack/joint seal
	Do nothing
	Partial depth repair
Concrete	Joint/Corner Spall Med sev
	Crack/joint seal
	Partial depth repair
	Partial depth repair
Concrete	Joint/Corner Spall Hi sev
	Partial depth repair
	Partial depth repair
	Partial depth repair





<i>Dry – Freeze – Cracking</i>			
Local	Distress	Acceptable	Recommended
	Mid-Panel Crack, 20% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 20% slab, Med sev	Partial depth repair or full-depth repair (local)	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Concrete/Asphalt overlay	Crack/joint seal
	Mid-Panel Crack, 40% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 40% slab, Med sev	Partial depth repair	Crack/joint seal
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Full-depth repair (local)	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 10% slab, Mod sev	Full-depth repair (local)	Full-depth repair (local)
	Corner Brk, 10% slab, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	Corner Brk, 30% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 30% slab, Mod sev	Crack/joint seal	Full-depth repair (local)
	Corner Brk, 30% slab, Hi sev	Full-depth repair (local)	Rehab/reconstruct
	10% Shattered, Low sev	Crack/joint seal	Do nothing
	10% Shattered, Mod sev	Crack/joint seal	Do nothing
	10% Shattered, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	30% Shattered, Low sev	Crack/joint seal	Do nothing
	30% Shattered, Mod sev	Concrete/Asphalt overlay	Full-depth repair (local)
	30% Shattered, Hi sev	Full-depth repair (local)	Rehab/reconstruct

<i>Dry – Freeze – Surface Distress</i>		
	Distress	Acceptable Recommended
Local	30% slabs, Patches Low sev	Do nothing
	30% slabs, Patches Med sev	Do nothing
	30% slabs, Patches Hi sev	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing
	50% slabs, Patches Med sev	Full-depth repair (local)
	50% slabs, Patches Hi sev	Full-depth repair (local)
Concrete	10% slabs, Fault Low sev	Crack/joint seal
	10% slabs, Fault Med sev	Grinding/grooving
	10% slabs, Fault Hi sev	Concrete/Asphalt overlay
	30% slabs, Fault Low sev	Full-depth repair (local)
	30% slabs, Fault Med sev	Concrete/Asphalt overlay or Slab stabilization/jacking/underseal
	30% slabs, Fault Hi sev	Concrete/Asphalt overlay or Slab stabilization/jacking/underseal or Grind/Groove

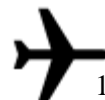




<i>Dry – No Freeze – Joint Problems</i>			
Local	Distress	Acceptable	Recommended
	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Do nothing	Crack/joint seal
	Joint Seal High sev	Crack/joint seal	Crack/joint seal
Concrete	Joint/Corner Spall Low sev	Partial depth repair or do nothing	Crack/joint seal
	Joint/Corner Spall Med sev	Crack/joint seal or do nothing	Partial depth repair
	Joint/Corner Spall Hi sev	Crack/joint seal	Partial depth repair

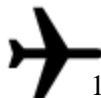
Local	Dry – No Freeze – Cracking		
	Distress	Acceptable	Recommended
	Mid-Panel Crack, 20% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 20% slab, Med sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Crack/joint seal	Partial depth repair
	Mid-Panel Crack, 40% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 40% slab, Med sev	Do nothing	Crack/joint seal
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Crack/joint seal	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 10% slab, Mod sev	Full-depth repair (local)	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Crack/joint seal	Full-depth repair (local)
	Corner Brk, 30% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 30% slab, Mod sev	Full-depth repair or do nothing	Crack/joint seal
	Corner Brk, 30% slab, Hi sev	Full-depth repair (local)	Rehab/reconstruct
	10% Shattered, Low sev	Do nothing	Crack/joint seal
	10% Shattered, Mod sev	Crack/joint seal	Full-depth repair (local)
	10% Shattered, Hi sev	Concrete/Asphalt overlay	Full-depth repair (local)
	30% Shattered, Low sev	Do nothing	Crack/joint seal
	30% Shattered, Mod sev	Full-depth repair or rehab/reconstruct	Concrete/asphalt overlay
	30% Shattered, Hi sev	Concrete/asphalt overlay	Rehab/reconstruct

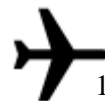




<i>Dry – No Freeze – Surface Distress</i>			
Local	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Do nothing	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Concrete/Asphalt overlay	Do nothing
Concrete	50% slabs, Patches Med sev	Concrete/Asphalt overlay or partial depth repair	Full-depth repair (local)
	50% slabs, Patches Hi sev	Rehab/reconstruct	Concrete/asphalt overlay
	10% slabs, Fault Low sev	Crack/joint seal	Do nothing
	10% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Do nothing Crossstitching/dowelbar retrofit
	10% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	
	30% slabs, Fault Low sev	Full-depth repair (local)	Do nothing
	30% slabs, Fault Med sev	Grinding/grooving	Concrete/asphalt overlay
	30% slabs, Fault Hi sev	Concrete/asphalt overlay	Rehab/reconstruct

<i>Wet – Freeze – Joint Problems</i>			
Regional	Distress	Acceptable	Recommended
	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Do nothing	Crack/joint seal
	Joint Seal High sev	Crack/joint seal	Crack/joint seal
Concrete	Joint/Corner Spall Low sev	Do nothing or partial depth repair	Crack/joint seal
	Joint/Corner Spall Med sev	Crack/joint seal	Partial depth repair
	Joint/Corner Spall High sev	Partial depth repair	Partial depth repair





Wet – Freeze – Cracking

Regional

Distress**Acceptable****Recommended**

Mid-Panel Crack, 20% slab, Low sev

Do nothing

Crack/joint seal

Mid-Panel Crack, 20% slab, Med sev

Partial depth repair

Crack/joint seal

Mid-Panel Crack, 20% slabs, Hi sev

Full-depth repair (local)

Partial depth repair

Mid-Panel Crack, 40% slab, Low sev

Do nothing

Crack/joint seal

Mid-Panel Crack, 40% slab, Med sev

Full-depth repair (local)

Crack/joint seal

Mid-Panel Crack, 40% slab, Hi sev

Partial depth repair

Full-depth repair (local)

Concrete

Corner Brk, 10% slab, Low sev

Do nothing

Crack/joint seal

Corner Brk, 10% slab, Mod sev

Full-depth repair (local)

Crack/joint seal

Corner Brk, 10% slab, Hi sev

Full-depth repair (local)

Full-depth repair (local)

Corner Brk, 30% slab, Low sev

Do nothing

Crack/joint seal

Corner Brk, 30% slab, Mod sev

Full-depth repair (local)

Crack/joint seal

Corner Brk, 30% slab, Hi sev

Full-depth repair (local)

Full-depth repair (local)

10% Shattered, Low sev

Do nothing

Crack/joint seal

10% Shattered, Mod sev

Crack/joint seal

Full-depth repair (local)

10% Shattered, Hi sev

Concrete/asphalt overlay

Full-depth repair (local)

30% Shattered, Low sev

Full-depth repair (local)

Crack/joint seal

30% Shattered, Mod sev

Rehab/reconstruct

Full-depth repair (local)

30% Shattered, Hi sev

Rehab/reconstruct

Full-depth repair (local)

<i>Wet – Freeze – Surface Distress</i>			
Regional	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Do nothing	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Full-depth repair (local)	Partial depth repair
Concrete	50% slabs, Patches Hi sev	Full-depth repair (local)	Rehab/reconstruct
	10% slabs, Fault Low sev	Do nothing	Crack/joint seal
	10% slabs, Fault Med sev	Crack/joint seal	Grinding/grooving
	10% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Low sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Med sev	Crossstitching/dowelbar retrofit	Grinding/grooving
	30% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Rehab/reconstruct





Wet – No Freeze – Joint Problems

Regional

Distress

Acceptable

Recommended

Joint seal, still good

Crack/joint seal

Do nothing

Joint Seal Low sev

Crack/joint seal

Do nothing

Joint Seal Med sev

Crack/joint seal

Crack/joint seal

Joint Seal High sev

Crack/joint seal

Crack/joint seal

Joint/Corner Spall Low sev

Crack/joint seal

Do nothing

Concrete

Joint/Corner Spall Med sev

Crack/joint seal

Partial depth repair

Joint/Corner Spall Hi sev

Partial depth repair

Partial depth repair

Wet – No Freeze – Cracking			
Regional	Distress	Acceptable	Recommended
	Mid-Panel Crack, 20% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 20% slab, Med sev	Do nothing	Full-depth repair (local)
	Mid-Panel Crack, 20% slabs, Hi sev	Partial depth repair	Full-depth repair (local)
	Mid-Panel Crack, 40% slab, Low sev	Partial depth repair	Full-depth repair (local)
	Mid-Panel Crack, 40% slab, Med sev	Partial depth repair	Full-depth repair (local)
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Full-depth repair (local)	Concrete/Asphalt overlay
	Corner Brk, 10% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 10% slab, Mod sev	Crack/joint seal	Full-depth repair (local)
	Corner Brk, 10% slab, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	Corner Brk, 30% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 30% slab, Mod sev	Crack/joint seal	Full-depth repair (local)
	Corner Brk, 30% slab, Hi sev	Full-depth repair (local)	Full-depth repair (local) or rehab/reconstruct
	10% Shattered, Low sev	Crack/joint seal	Full-depth repair (local)
	10% Shattered, Mod sev	Full-depth repair (local)	Full-depth repair (local)
	10% Shattered, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	30% Shattered, Low sev	Crack/joint seal	Full-depth repair (local)
	30% Shattered, Mod sev	Full-depth repair (local)	Rehab/reconstruct
	30% Shattered, Hi sev	Full-depth repair (local)	Rehab/reconstruct

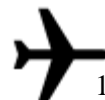




<i>Wet – No Freeze – Surface Distress</i>			
Regional	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Crack/joint seal	Do nothing or partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Concrete/asphalt overlay	Full-depth repair (local)
Concrete	50% slabs, Patches Hi sev	Concrete/asphalt overlay	Full-depth repair (local)
	10% slabs, Fault Low sev	Crack/joint seal	Do nothing
	10% slabs, Fault Med sev	Crack/joint seal	Slab stabilization/jacking/underseal
	10% slabs, Fault Hi sev	Grinding/grooving	Slab stabilization/jacking/underseal
	30% slabs, Fault Low sev	Slab stabilization/jacking/underseal	Do nothing
	30% slabs, Fault Med sev	Grinding/grooving	Slab stabilization/jacking/underseal
	30% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Rehab/reconstruct

	<i>Dry – Freeze – Joint Problems</i>		
	Distress	Acceptable	Recommended
Regional	Joint seal, still good	Do nothing	Crack/joint seal
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Do nothing	Crack/joint seal
	Joint Seal High sev	Crack/joint seal	Crack/joint seal
Concrete	Joint/Corner Spall Low sev	Do nothing	Crack/joint seal
	Joint/Corner Spall Med sev	Crack/joint seal	Partial depth repair
	Joint/Corner Spall Hi sev	Crack/joint seal	Partial depth repair



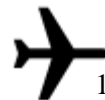


Dry – Freeze – Cracking

	Distress	Acceptable	Recommended
Regional	Mid-Panel Crack, 20% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 20% slab, Med sev	Partial depth repair	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Partial depth repair	Full-depth repair (local)
	Mid-Panel Crack, 40% slab, Low sev	Do nothing	Crack/joint seal
	Mid-Panel Crack, 40% slab, Med sev	Partial depth repair or full-depth repair (local)	Rehab/reconstruct
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Full-depth repair (local)	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 10% slab, Mod sev	Full-depth repair (local)	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Crack/joint seal	Full-depth repair (local)
	Corner Brk, 30% slab, Low sev	Do nothing	Crack/joint seal
	Corner Brk, 30% slab, Mod sev	Full-depth repair (local)	Crack/joint seal
	Corner Brk, 30% slab, Hi sev	Crack/joint seal	Full-depth repair (local)
	10% Shattered, Low sev	Do nothing	Crack/joint seal
	10% Shattered, Mod sev	Crack/joint seal	Full-depth repair (local)
	10% Shattered, Hi sev	Full-depth repair (local)	Full-depth repair (local)
	30% Shattered, Low sev	Do nothing	Full-depth repair (local)
	30% Shattered, Mod sev	Full-depth repair (local)	Rehab/reconstruct
	30% Shattered, Hi sev	Full-depth repair (local)	Rehab/reconstruct

	<i>Dry – Freeze – Surface Distress</i>		
	Distress	Acceptable	Recommended
Regional	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Full-depth repair (local)	Do nothing
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Full-depth repair (local)	Partial depth repair
Concrete	50% slabs, Patches Hi sev	Concrete/asphalt overlay	Full-depth repair (local)
	10% slabs, Fault Low sev	Crack/joint seal	Do nothing
	10% slabs, Fault Med sev	Crack/joint seal	Grinding/grooving
	10% slabs, Fault Hi sev	Crossstitching/dowelbar retrofit	Slab stabilization/jacking/underseal
	30% slabs, Fault Low sev	Grinding/grooving	Do nothing
	30% slabs, Fault Med sev	Grinding/grooving	Do nothing
	30% slabs, Fault Hi sev	Crossstitching/dowelbar retrofit	Slab stabilization/jacking/underseal





Dry – No Freeze – Joint Problems

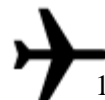
Regional

Concrete

Distress	Acceptable	Recommended
Joint seal, still good	Do nothing	Do nothing
Joint Seal Low sev	Do nothing	Crack/joint seal
Joint Seal Med sev	Do nothing	Crack/joint seal
Joint Seal High sev	Crack/joint seal	Crack/joint seal
Joint/Corner Spall Low sev	Crack/joint seal	Do nothing
Joint/Corner Spall Med sev	Partial depth repair	Crack/joint seal
Joint/Corner Spall Hi sev	Crack/joint seal	Partial depth repair

Regional	Dry – No Freeze – Cracking			
	Distress	Acceptable	Recommended	
	Mid-Panel Crack, 20% slab, Low sev	Crack/joint seal	Do nothing	
	Mid-Panel Crack, 20% slab, Med sev	Partial depth repair	Crack/joint seal	
	Mid-Panel Crack, 20% slabs, Hi sev	Full-depth repair (local)	Full-depth repair (local)	
	Mid-Panel Crack, 40% slab, Low sev	Crack/joint seal	Do nothing	
	Mid-Panel Crack, 40% slab, Med sev	Partial depth repair or full-depth repair (local)	Crack/joint seal	
	Mid-Panel Crack, 40% slab, Hi sev	Full-depth repair (local)	Rehab/reconstruct	
	Concrete	Corner Brk, 10% slab, Low sev	Crack/joint seal	Do nothing
		Corner Brk, 10% slab, Mod sev	Full-depth repair (local)	Crack/joint seal
Corner Brk, 10% slab, Hi sev		Full-depth repair (local)	Full-depth repair (local)	
Corner Brk, 30% slab, Low sev		Crack/joint seal	Do nothing	
Corner Brk, 30% slab, Mod sev		Full-depth repair (local)	Crack/joint seal	
Corner Brk, 30% slab, Hi sev		Crack/joint seal	Full-depth repair (local)	
10% Shattered, Low sev		Do nothing	Crack/joint seal	
10% Shattered, Mod sev		Full-depth repair (local)	Full-depth repair (local)	
10% Shattered, Hi sev		Full-depth repair (local)	Full-depth repair (local)	
30% Shattered, Low sev		Do nothing	Crack/joint seal	
30% Shattered, Mod sev	Full-depth repair (local)	Rehab/reconstruct		
30% Shattered, Hi sev	Full-depth repair (local)	Rehab/reconstruct		

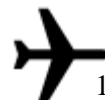




<i>Dry – No Freeze – Surface Distress</i>			
Regional	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Partial depth repair	Do nothing
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair (local)
	50% slabs, Patches Low sev	Do nothing	Do nothing
Concrete	50% slabs, Patches Med sev	Full-depth repair (local)	Partial depth repair
	50% slabs, Patches Hi sev	Concrete/Asphalt overlay	Rehab/reconstruct
	10% slabs, Fault Low sev	Crack/joint seal	Do nothing
	10% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	10% slabs, Fault Hi sev	Grinding/grooving	Slab stabilization/jacking/underseal
	30% slabs, Fault Low sev	Crack/joint seal	Do nothing
	30% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Hi sev	Rehab/reconstruct	Slab stabilization/jacking/underseal

	<i>Wet – Freeze – Joint Problems</i>		
	Distress	Acceptable	Recommended
National	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Crack/joint seal	Do nothing
	Joint Seal Med sev	Crack/joint seal	Crack/joint seal
Concrete	Joint Seal High sev	Crack/joint seal	Crack/joint seal
	Joint/Corner Spall Low sev	Crack/joint seal or Do nothing	Partial depth repair
	Joint/Corner Spall Med sev	Crack/joint seal or Partial depth repair	Partial depth repair
	Joint/Corner Spall High sev	Partial depth repair	Partial depth repair





	<i>Wet – Freeze – Cracking</i>		
	Distress	Acceptable	Recommended
National	Mid-Panel Crack, 20% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 20% slab, Med sev	Partial depth repair or full-depth repair	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Crack/joint seal or partial depth repair	Full-depth repair
	Mid-Panel Crack, 40% slab, Low sev	Do nothing	Concrete/asphalt overlay
	Mid-Panel Crack, 40% slab, Med sev	Rehab/reconstruct	Concrete/asphalt overlay
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Concrete/asphalt overlay	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Crack/joint seal or full-depth repair	Do nothing
	Corner Brk, 10% slab, Mod sev	Full-depth repair	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Full-depth repair	Full-depth repair
	Corner Brk, 30% slab, Low sev	Crack/joint seal	Do nothing or full-depth repair
	Corner Brk, 30% slab, Mod sev	Full-depth repair	Full-depth repair or concrete/asphalt overlay
	Corner Brk, 30% slab, Hi sev	Full-depth repair	Rehab/reconstruct
	10% Shattered, Low sev	Do nothing	Full-depth repair
	10% Shattered, Mod sev	Crack/joint seal	Full-depth repair
	10% Shattered, Hi sev	Concrete/asphalt overlay	Full-depth repair
	30% Shattered, Low sev	Rehab/reconstruct	Concrete/asphalt overlay
	30% Shattered, Mod sev	Full-depth repair	Rehab/reconstruct
	30% Shattered, Hi sev	Full-depth repair	Rehab/reconstruct

<i>Wet – Freeze – Surface Distress</i>			
National	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Partial depth repair	Full-depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Full-depth repair
	50% slabs, Patches Low sev	Concrete/asphalt overlay	Do nothing
Concrete	50% slabs, Patches Med sev	Full-depth repair	Concrete/asphalt overlay
	50% slabs, Patches Hi sev	Concrete/asphalt overlay	Rehab/reconstruct
	10% slabs, Fault Low sev	Grinding/grooving	Do nothing
	10% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	10% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Low sev	Do nothing	Grinding/grooving
	30% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Hi sev	Slab stabilization/jacking/underseal	Rehab/reconstruct

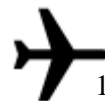




	<i>Wet – No Freeze – Joint Problems</i>		
	Distress	Acceptable	Recommended
National	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Crack/joint seal	Crack/joint seal
	Joint Seal High sev	Crack/joint seal	Crack/joint seal
Concrete	Joint/Corner Spall Low sev	Crack/joint seal	Partial depth repair
	Joint/Corner Spall Med sev	Crack/joint seal	Partial depth repair
	Joint/Corner Spall Hi sev	Partial depth repair	Partial depth repair

	<i>Wet – No Freeze – Cracking</i>		
	Distress	Acceptable	Recommended
National	Mid-Panel Crack, 20% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 20% slab, Med sev	Partial depth repair	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Crack/joint seal	Partial depth repair
	Mid-Panel Crack, 40% slab, Low sev	Crack/joint seal	Concrete/asphalt overlay
	Mid-Panel Crack, 40% slab, Med sev	Partial depth repair	Concrete/asphalt overlay
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Concrete/asphalt overlay	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 10% slab, Mod sev	Full-depth repair	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Full-depth repair	Full-depth repair
	Corner Brk, 30% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 30% slab, Mod sev	Crack/joint seal	Full-depth repair
	Corner Brk, 30% slab, Hi sev	Full-depth repair	Rehab/reconstruct
	10% Shattered, Low sev	Crack/joint seal	Full-depth repair
	10% Shattered, Mod sev	Crack/joint seal	Full-depth repair
	10% Shattered, Hi sev	Concrete/asphalt overlay	Full-depth repair
	30% Shattered, Low sev	Full-depth repair	Crack/joint seal
	30% Shattered, Mod sev	Rehab/reconstruct	Full-depth repair
	30% Shattered, Hi sev	Full-depth repair	Rehab/reconstruct





<i>Wet – No Freeze – Surface Distress</i>			
National	Distress	Acceptable	Recommended
	30% slabs, Patches Low sev	Do nothing	Do nothing
	30% slabs, Patches Med sev	Full-depth repair	Partial depth repair
	30% slabs, Patches Hi sev	Partial depth repair	Rehab/reconstruct
	50% slabs, Patches Low sev	Do nothing	Do nothing
	50% slabs, Patches Med sev	Concrete/asphalt overlay	Full-depth repair
Concrete	50% slabs, Patches Hi sev	Concrete/asphalt overlay	Rehab/reconstruct
	10% slabs, Fault Low sev	Crack/joint seal	Do nothing
	10% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	10% slabs, Fault Hi sev	Grinding/grooving	Slab stabilization/jacking/underseal
	30% slabs, Fault Low sev	Crack/joint seal	Do nothing
	30% slabs, Fault Med sev	Slab stabilization/jacking/underseal	Grinding/grooving
	30% slabs, Fault Hi sev	Grinding/grooving	Slab stabilization/jacking/underseal

	<i>Dry – Freeze – Joint Problems</i>		
	Distress	Acceptable	Recommended
National	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Crack/joint seal	Crack/joint seal
	Joint Seal High sev	Crack/joint seal	Crack/joint seal
Concrete	Joint/Corner Spall Low sev	Crack/joint seal	Do nothing
	Joint/Corner Spall Med sev	Crack/joint seal	Partial depth repair
	Joint/Corner Spall Hi sev	Partial depth repair	Partial depth repair





Dry – Freeze – Cracking

National

Distress

Acceptable

Recommended

Mid-Panel Crack, 20% slab, Low sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 20% slab, Med sev

Partial depth repair

Crack/joint seal

Mid-Panel Crack, 20% slabs, Hi sev

Crack/joint seal

Partial depth repair

Mid-Panel Crack, 40% slab, Low sev

Crack/joint seal

Do nothing

Mid-Panel Crack, 40% slab, Med sev

Partial depth repair

Crack/joint seal

Mid-Panel Crack, 40% slab, Hi sev

Concrete/asphalt overlay

Rehab/reconstruct

Corner Brk, 10% slab, Low sev

Crack/joint seal

Do nothing

Corner Brk, 10% slab, Mod sev

Full-depth repair

Crack/joint seal

Corner Brk, 10% slab, Hi sev

Full-depth repair

Full-depth repair

Corner Brk, 30% slab, Low sev

Crack/joint seal

Do nothing

Corner Brk, 30% slab, Mod sev

Crack/joint seal

Full-depth repair

Corner Brk, 30% slab, Hi sev

Full-depth repair

Rehab/reconstruct

10% Shattered, Low sev

Crack/joint seal

Full-depth repair

10% Shattered, Mod sev

Crack/joint seal

Full-depth repair

10% Shattered, Hi sev

Concrete/asphalt overlay

Full-depth repair

30% Shattered, Low sev

Full-depth repair

Crack/joint seal

30% Shattered, Mod sev

Rehab/reconstruct

Full-depth repair

30% Shattered, Hi sev

Full-depth repair

Rehab/reconstruct

Concrete

<i>Dry – Freeze – Surface Distress</i>	
National	Distress Acceptable Recommended
	30% slabs, Patches Low sev Do nothing Do nothing
	30% slabs, Patches Med sev Full-depth repair Partial depth repair
	30% slabs, Patches Hi sev Partial depth repair Rehab/reconstruct
	50% slabs, Patches Low sev Do nothing Do nothing
Concrete	50% slabs, Patches Med sev Concrete/asphalt overlay Full-depth repair
	50% slabs, Patches Hi sev Concrete/asphalt overlay Rehab/reconstruct
	10% slabs, Fault Low sev Crack/joint seal Do nothing
	10% slabs, Fault Med sev Slab stabilization/jacking/underseal Grinding/grooving
	10% slabs, Fault Hi sev Grinding/grooving Slab stabilization/jacking/underseal
	30% slabs, Fault Low sev Crack/joint seal Do nothing
	30% slabs, Fault Med sev Slab stabilization/jacking/underseal Grinding/grooving
	30% slabs, Fault Hi sev Grinding/grooving Slab stabilization/jacking/underseal





	<i>Dry – No Freeze – Joint Problems</i>		
	Distress	Acceptable	Recommended
National	Joint seal, still good	Do nothing	Do nothing
	Joint Seal Low sev	Do nothing	Crack/joint seal
	Joint Seal Med sev	Crack/joint seal	Crack/joint seal
	Joint Seal High sev	Crack/joint seal	Crack/joint seal
Concrete	Joint/Corner Spall Low sev	Crack/joint seal	Do nothing
	Joint/Corner Spall Med sev	Crack/joint seal	Partial depth repair
	Joint/Corner Spall Hi sev	Partial depth repair	Partial depth repair

	<i>Dry – No Freeze – Cracking</i>		
	Distress	Acceptable	Recommended
National	Mid-Panel Crack, 20% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 20% slab, Med sev	Partial depth repair	Crack/joint seal
	Mid-Panel Crack, 20% slabs, Hi sev	Crack/joint seal	Partial depth repair
	Mid-Panel Crack, 40% slab, Low sev	Crack/joint seal	Do nothing
	Mid-Panel Crack, 40% slab, Med sev	Partial depth repair	Crack/joint seal
Concrete	Mid-Panel Crack, 40% slab, Hi sev	Concrete/asphalt overlay	Rehab/reconstruct
	Corner Brk, 10% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 10% slab, Mod sev	Full-depth repair	Crack/joint seal
	Corner Brk, 10% slab, Hi sev	Full-depth repair	Full-depth repair
	Corner Brk, 30% slab, Low sev	Crack/joint seal	Do nothing
	Corner Brk, 30% slab, Mod sev	Crack/joint seal	Full-depth repair
	Corner Brk, 30% slab, Hi sev	Full-depth repair	Rehab/reconstruct
	10% Shattered, Low sev	Crack/joint seal	Full-depth repair
	10% Shattered, Mod sev	Crack/joint seal	Full-depth repair
	10% Shattered, Hi sev	Concrete/asphalt overlay	Full-depth repair
	30% Shattered, Low sev	Full-depth repair	Crack/joint seal
	30% Shattered, Mod sev	Rehab/reconstruct	Full-depth repair
	30% Shattered, Hi sev	Full-depth repair	Rehab/reconstruct

Introduction	Steps	Asphalt Pavement Treatment Tables	Asphalt Maintenance Treatment History	Concrete Pavement Treatment Tables	Concrete Maintenance Treatment Hierarchy
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Dry – No Freeze – Surface Distress

National

Distress

Acceptable

Recommended

30% slabs, Patches Low sev

Do nothing

Do nothing

30% slabs, Patches Med sev

Full-depth repair

Partial depth repair

30% slabs, Patches Hi sev

Partial depth repair

Rehab/reconstruct

50% slabs, Patches Low sev

Do nothing

Do nothing

50% slabs, Patches Med sev

Concrete/asphalt overlay

Full-depth repair

50% slabs, Patches Hi sev

Concrete/asphalt overlay

Rehab/reconstruct

Concrete

10% slabs, Fault Low sev

Crack/joint seal

Do nothing

10% slabs, Fault Med sev

Slab stabilization/jacking/underseal

Grinding/grooving

10% slabs, Fault Hi sev

Grinding/grooving

Slab stabilization/jacking/underseal

30% slabs, Fault Low sev

Crack/joint seal

Do nothing

30% slabs, Fault Med sev

Slab stabilization/jacking/underseal

Grinding/grooving

30% slabs, Fault Hi sev

Grinding/grooving

Slab stabilization/jacking/underseal

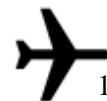
Concrete Maintenance Treatment Hierarchy

First Treatment

Second Treatment

Treatment	Do Nothing	Crack/Joint Seal	Partial Depth Repair
Do nothing	Do nothing	Crack/joint seal	Partial depth repair
Crack/joint seal	Crack/ joint seal	Crack/joint seal	Both
Partial depth repair	Partial depth repair	Both	Partial depth repair
Full-depth repair (local)	Full-depth repair (local)	Both	Full-depth repair (local)
Crossstitching/dowelbar retrofit	Crossstitching/dowelbar retrofit	Both	Crossstitching/dowelbar retrofit
Slab stabilization/ jacking/underseal	Slab stabilization/ jacking/underseal	Both	Slab stabilization/ jacking/underseal
PCC/AC overlay	PCC/AC overlay	Both	Both
Grinding/grooving	Grinding/grooving	Both	Both
Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct





Concrete Maintenance Treatment Hierarchy

First Treatment

Second Treatment

Treatment	Full-Depth Repair (Local)	Crossstitching/ Dowelbar Retrofit	Slab Stabilization/ Jacking/Underseal
Do nothing	Full-depth repair (local)	Crossstitching/dowelbar retrofit	Slab stabilization/jacking/underseal
Crack/joint seal	Both	Both	Both
Partial depth repair	Full-depth repair (local)	Crossstitching/dowelbar retrofit	Slab stabilization/jacking/underseal
Full-depth repair (local)	Full-depth repair (local)	Crossstitching/dowelbar retrofit	Both
Crossstitching/dowelbar retrofit	Crossstitching/dowelbar retrofit	Crossstitching/dowelbar retrofit	Slab stabilization/jacking/underseal
Slab stabilization/jacking/underseal	Both	Slab stabilization/jacking/underseal	Slab stabilization/jacking/underseal
PCC/AC overlay	Both	Both	Both
Grinding/grooving	Both	Both	Both
Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct

Concrete Maintenance Treatment Hierarchy

First Treatment		Second Treatment	
Treatment	PCC/AC Overlay	Grinding/Grooving	Rehab/Reconstruct
Do nothing	PCC/AC overlay	Grinding/grooving	Rehab/reconstruct
Crack/ joint seal	Both	Both	Rehab/reconstruct
Partial depth repair	Both	Both	Rehab/reconstruct
Full-depth repair (local)	Both	Both	Rehab/reconstruct
Crossstitching/dowelbar retrofit	Both	Both	Rehab/reconstruct
Slab stabilization/jacking/underseal	Both	Both	Rehab/reconstruct
PCC/AC overlay	PCC/AC overlay	PCC/AC overlay	Rehab/reconstruct
Grinding/grooving	PCC/AC overlay	Grinding/grooving	Rehab/reconstruct
Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct	Rehab/reconstruct