

Pavement Presentation Glossary of Terms

This is a partial list of typical terms used in the pavement surface treatment business. The complete 15 page glossary can be found at <http://fp2.org/>

- **Alligator Cracking** – A series of interconnecting cracks in an asphalt pavement surface forming a pattern that resembles an alligator's hide or chicken wire. In its early stages, alligator cracking may be characterized by a single longitudinal crack in the wheel path. The cracks indicate fatigue failure of the surface layer generally caused by repeated traffic loadings. Hence, the term fatigue cracking is also used.
- **Asphalt Tack Coat** – A light application of asphalt, usually asphalt emulsion diluted with water. It is used to ensure a bond between two bituminous pavement layers.
- **Backer Material** – A compressible material that is placed in joints or cracks before applying sealant to prevent bonding of the sealant on the bottom of the joint, control sealant depth, and prevent sagging of the sealant.
- **Bituminous Pavement** – A pavement comprising an upper layer or layers of aggregate mixed with a bituminous binder, such as asphalt, coal tars, and natural tars for purposes of this terminology; surface treatments such as chip seals, slurry seals, sand seals, and cape seals are also included.
- **Break** – The process in the curing of an asphalt emulsion by which the globules of asphalt become separated from the water. The color of the emulsion will change from brown to black during the break process.
- **Cape Seal** – A surface treatment that involves the application of slurry seal to a newly constructed surface treatment or chip seal. Cape seals are used to provide a dense, waterproof surface with improved skid resistance and ride quality.
- **Chip Seal** – A surface treatment in which the pavement is sprayed with asphalt (generally emulsified) and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with non load-associated cracks and to improve surface friction, although they also are commonly used as a wearing course on low volume roads.
- **Cold In-Place Recycling (CIR)** – A process in which a portion of an existing bituminous pavement is pulverized or milled, and then the reclaimed material is mixed with new binder and, when needed, virgin aggregates. The binder used most often is emulsified asphalt with or without a softening agent. The resultant blend is placed as a base for a subsequent overlay or surface treatment.
- **Cold Milling** – A process of removing pavement material from the surface of the pavement either to prepare the surface to receive overlays (by removing rutting, and surface irregularities) or to restore pavement cross slopes and profile. Also used to remove oxidized asphalt concrete. [Also see carbide milling.]
- **Crack** – Fissure or discontinuity of the pavement surface not necessarily extending through the entire thickness of the pavement. Cracks generally develop after initial construction of the pavement and may be caused by thermal effects, excess loadings, or excess deflections.
- **Crack Filling** – The placement of materials into non-working cracks to substantially reduce the intrusion of incompressibles and infiltration of water, while also reinforcing the adjacent pavement. Crack filling should be distinguished from crack sealing (see below).

- **Crack Sealing** – A maintenance procedure that involves placement of specialized materials into working cracks using unique configurations to reduce the intrusion of incompressibles into the crack and to prevent infiltration of water into the underlying pavement layers. (See Working Crack.)
- **Cure** – A period of time following placement and finishing of a material such as concrete during which desirable engineering properties (such as strength) develop. Improved properties may be achieved by controlling temperature or humidity during curing.
- **Curing** – The maintenance of a satisfactory moisture content and temperature in concrete during its early stages so that desired properties may develop.
- **Emulsified Asphalt** – A liquid mixture of asphalt binder, water, and an emulsifying agent. Minute globules of asphalt are suspended in water by using an emulsifying agent. These asphalt globules are either anionic (negatively charged) or cationic (positively charged).
- **Fog Seal** – A light application of slow setting asphalt emulsion diluted with water and without the addition of any aggregate applied to the surface of a bituminous pavement. Fog seals are used to renew aged asphalt surfaces, seal small cracks and surface voids, or adjust the quality of binder in newly applied chip seals.
- **Hot Mix Asphalt Concrete (HMAC or HMA)** – A thoroughly controlled mixture of asphalt binder and well-graded, high quality aggregate thoroughly compacted into a uniform dense mass. HMAC pavements may also contain additives such as anti-stripping agents and polymers.
- **Longitudinal Crack** – A crack or discontinuity in a pavement that runs generally parallel to the pavement centerline. Longitudinal cracks may occur as a result of poorly constructed paving lane joints, thermal shrinkage, inadequate support, reflection from underlying layers, or as a precursor to fatigue cracking. Longitudinal cracking that occurs in the wheel path is generally indicative of alligator cracking.
- **Microsurfacing** – A mixture of polymer modified asphalt emulsion, mineral aggregate, mineral filler, water, and other additives, properly proportioned, mixed, and spread on a paved surface. Microsurfacing differs from slurry seal in that it can be used on high volume roadways to correct wheel path rutting and provide a skid resistant pavement surface.
- **Modified Asphalt Chip Seal** – A variation on conventional chip seals in which the asphalt binder is modified with a blend of ground tire or latex rubber, or polymer modifiers to enhance the elasticity and adhesion characteristics of the binder.
- **Pavement Preservation** – The sum of all activities undertaken to provide and maintain serviceable roadways. This includes corrective maintenance and preventive maintenance, as well as minor rehabilitation projects.
- **Pavement Preventive Maintenance** – Planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without increasing the structural capacity).
- **Pavement Reconstruction** – Replacement of an existing pavement structure by the placement of the equivalent of a new pavement structure. Reconstruction usually involves complete removal and replacement of the existing pavement structure and may include new and/or recycled materials.
- **Pavement Rehabilitation** – Structural enhancements that extend the service life of an existing pavement and/or improve its load carrying capability. Rehabilitation techniques include restoration treatments and structural overlays.

- **Reflection Cracking** – Cracking that appears on the surface of a pavement above joints and cracks in the underlying pavement layer due to horizontal and vertical movement of these joints and cracks.
- **Routine Maintenance** – Maintenance work that is planned and performed on a routine basis to maintain and preserve the condition of the highway system or to respond to specific conditions and events that restore the highway system to an adequate level of service. Examples include crack sealing, fog sealing, and repair of localized failed areas of pavement.
- **Sand Seal** – An application of asphalt binder, normally an emulsion, covered with a fine aggregate. It may be used to improve the skid resistance of slippery pavements and to seal against air and water intrusion.
- **Sandwich Seal** – A surface treatment that consists of application of asphalt emulsion and a large aggregate, followed by a second application of asphalt emulsion that is in turn covered with smaller aggregate and compacted. Sandwich seals are used to seal the surface and improve skid resistance, especially on asphalt pavement surfaces that are bleeding or flushing.
- **Scrub Seal** – Application of a polymer modified asphalt to the pavement surface followed by the broom scrubbing of the asphalt into cracks and voids, then the application of an even coat of sand or small aggregate, and a second brooming of the aggregate and asphalt mixture. This seal is then rolled with a pneumatic tire roller.
- **Slurry Seal** – A mixture of slow setting emulsified asphalt, well graded fine aggregate, mineral filler, and water. It is used to fill cracks and seal areas of old pavements, to restore a uniform surface texture, to seal the surface to prevent moisture and air intrusion into the pavement, and to improve skid resistance.
- **Surface Treatment** – Any application applied to an asphalt pavement surface to restore or protect the surface characteristics. Surface treatments include a spray application of asphalt (cement, cutback, or emulsion) and may or may not include the application of aggregate cover. Surface treatments are typically less than 25 mm (1 in) thick. They may also be referred to as surface seals, or seal coats or chip seals.
- **Thin Overlay** – A HMA overlay with one lift of surface course generally with a thickness of 38 mm (1.5 in) or less.
- **Transverse Crack** – A discontinuity in a pavement surface that runs generally perpendicular to the pavement centerline. In HMA pavements, transverse cracks often form as a result of thermal movements of the pavement or reflection from underlying layers. In PCC pavements, transverse cracks may be caused by fatigue, loss of support, or thermal movements.