

Asphalt Surfacing – Surface Treatments or Layers (non-structural)

**Traffic Range:**

Typical AADT < 1,000 to 5,000. However, there are no traffic limitations for some of the higher quality surface treatments.

Life Expectancy:

Life expectancy is generally shorter than for other paved surfaces.

Unit Price:

Material and installation costs are generally lower than for other types of paved surfaces.

Appearance:

Appearance is generally black or gray, but can be influenced by pigmented binders and aggregate chip color. Surface texture ranges from fine to coarse.

Advantages:

Lower initial cost than other paved surfaces; Provides a relatively durable surfacing with generally good friction properties.

Limitations:

Does not add to the structural capacity of the roadway.

Product Description: When used as a road surfacing on aggregate base, the surface treatments protect the underlying materials from water and erosion and provide a relatively smooth riding surface. Surface treatments may also be used as preventative maintenance treatments for small cracks, bleeding, raveling, and loss of surface friction on existing paved roadways.

Cape Seal



Cape seal construction.

Photo Source: Slurry Pavers, Inc.

Traffic Range:

Typical AADT < 2,000 when placed on aggregate base. No limitations when placed on existing HACP.

Life Expectancy:

7 to 15 years (average 9 years).

Unit Price:

Material & Installation: \$2.70 to \$3.60/m² (\$2.25 to \$3.00/yd²).

Appearance:

Appearance is generally black with a fine texture. The color can be influenced by pigmented binders and aggregate chip color.

Advantages:

Durable; Good skid resistance; Reduces chip loss.

Limitations:

Higher initial cost than some other surface treatments; Limited use in United States.

Product Description: A Cape seal is a thin surface treatment constructed by applying a slurry seal or microsurfacing to a newly constructed chip seal. It is designed to be an integrated system where the primary purpose of the slurry is to fill voids in the chip seal.

Cape Seal



Cape seal surfacing.

Photo Source: Western Emulsions



Cape seal surfacing.

Photo Source: Western Emulsions

Chip Seal



Chip seal surfacing with red aggregate chips.

Photo Source: Golder Associates Inc.

Traffic Range:

Typical AADT < 1,000 when placed on aggregate base. Typical AADT < 2,000 when placed on existing HACP.

Life Expectancy:

3 to 7 years (average 5 years).

Unit Price:

Material & Installation: \$1.00 to \$1.50/m² (\$0.80 to \$1.25/yd²).

Appearance:

Appearance is influenced by the binder and aggregate chip color. Surface texture is influenced by the aggregate size, but is generally coarse.

Advantages:

Lower initial cost than many other surface treatments; Durable; Widely available.

Limitations:

Loose chips can be windshield hazard.

Product Description: A chip seal is a single thin surface treatment constructed by spraying a bituminous binding agent and immediately spreading and rolling a single layer of aggregate cover, typically 6 to 9.5 mm (0.25 to 0.375 in.) thick.

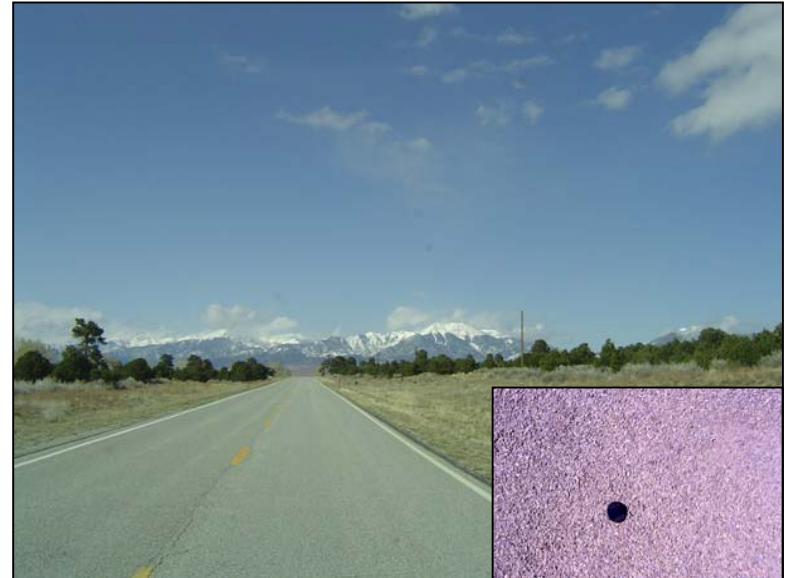
Chip Seal

1.2



Chip seal surfacing.

Photo Source: FHWA-CFLHD



Chip seal surfacing.

Photo Source: FHWA-CFLHD

Chip Seal

1.2



Chip seal construction.

Photo Source: FHWA-WFLHD



Chip seal surfacing.

Photo Source: FHWA-CFLHD

Chip Seal

1.2



Chip seal crack sealing.

Photo Source: Golder Associates Inc.



Worn chip seal surfacing with colored chips.

Photo Source: Golder Associates Inc.



Chip seal over geotextile construction.

Photo Source: FHWA-CFLHD

Traffic Range:

Typical AADT < 1,000 when placed on an existing surface treatment. Typical AADT < 2,000 when placed on existing HACP.

Life Expectancy:

Typically 3 to 7 years (average 5 years).

Unit Price:

Material & Installation: \$2.30 to \$3.40/m² (\$1.90 to \$2.80/yd²).

Appearance:

Appearance is influenced by the binder and aggregate chip color. Surface texture is influenced by the aggregate size, but is generally coarse.

Advantages:

Reduces reflective cracking; Reduces moisture infiltration.

Limitations:

Few experienced contractors; Slippage is possible in applications with high shearing forces at the surface (e.g. tight radius curves, breaking at intersections, etc.).

Product Description: A geotextile-reinforced chip seal is constructed by applying a tack coat to the prepared unbound or bound surfacing, rolling out a geotextile layer onto the prepared surface, applying a scatter coat of aggregate on top of the geotextile and rolling it, and then constructing a traditional chip seal as a final driving surface.