



# Types of Bitumen Used for Road Construction

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## 1 Surface Course

This layer is exposed directly to traffic and it is the last layer of road construction before markings are applied.

### Hot Asphalt

**Penetration Grade:** 60/70, 40/50, 80/100, 120/150, 200/300

### Cold Asphalt

**Cut Back Bitumen:** RC 70, RC 250, RC 800, RC 3000  
SC 250, SC 800, SC 3000  
MC 70, MC 250, MC 800, MC 3000

**Bitumen Emulsion:** All grades of Anionic and Cationic bitumen emulsion

### + Tack Coat

Tack coat is a thin layer of liquid bitumen that bonds the two asphalt layers.

**Cut Back Bitumen:** MC 30 **Bitumen Emulsion:** CRS-1 and CRS-2

## 2 Binder Course

The binder course is placed between the surface course and base course and its purpose is to distribute the load to the base course.

**Viscosity Grade:** VG 10, VG 20, VG 30, VG 40

**Penetration Grade:** 30/40, 40/50, 60/70, 80/100, 120/150

### + Prime Coat

Prime coat is designed to harden the surface of base course and ensure adhesion between the base course and asphaltic course.

**Cut Back Bitumen:** MC 30, SC 70, MC 70, RC 70, SC 250, MC 250, RC 250

**Bitumen Emulsion:** All grades of Anionic and Cationic bitumen emulsion

## 3 Base Course

This layer distributes the loads from top layers to the sub-base course and sub-grade layer. It is constructed with hard and durable aggregates.

## 4 Sub-Base Course

The sub-base is the layer of aggregate that lies below the base course and usually consists of crushed aggregate or gravel.

## 5 Sub-Grade

The part of the ground where the base, sub-base and asphalt layers are placed on it is sub grade. This layer must be very strong.

## \* Protective Asphalt

Protective asphalt makes the road bed impermeable, increases its strength, maintains the road surface from damages and repairs it.



### Seal Coat

This type improves the surface asphalt appearance and aerated surfaces.

**Emulsion:** CSS-1, SS-1h, SS-1 and CSS-1h



### Slurry Seal

It is used in maintenance operations of airports and urban streets.

**Emulsion:** SS-1, SS-1h, CSS-1, CSS-1h, CQS-1h



### Chip Seal

Chip seals are used on rural roads carrying lower traffic volumes.

**Emulsion:** CRS-2, RS-2 or HFRS-2, PMB



### Micro Surfacing

Micro surfacing is done to fill the cracks and improves the oxidized surfaces of the road.

**PMB:** PMCQS-1h, PMQS-1h, CQS-1P



### Fog Seal

It seals the cracks, reduces sanding and improves aerated surfaces.

**Emulsion:** SS-1, SS-1h, CSS-1 or CSS-1h