



# Repsol COLOR RECOFAL



Pigmented Synthetic Binders are binder products with properties similar to bitumen that are obtained from a mixture of resins, oils and polymers. They are colourless in a thin film and can be given the desired colouration by incorporating mineral pigments.

Repsol sells Pigmented Synthetic Binders under the **Repsol COLOR RECOFAL** standard. These product ranges have been developed for the manufacture of pigmented mixtures in special areas where colour is an essential requirement.

With these binders, pavements can be obtained in a wide range of colours or can be used without pigment, resulting in the colour of the mixture similar to that of the aggregate used, being suitable for achieving natural tones and fully integrated with the environment.

## APPLICATIONS

Synthetic binders developed by Repsol are applied in special areas such as:

- Paving of roads in parks and gardens.
- Bicycle paths.
- Pedestrian areas.
- Sports tracks.
- Island.
- Differentiated pavement elements.
- Tracks and paved roads in protected areas, natural parks, etc.
- Special areas for security purposes.

## PRODUCT CHARACTERISTICS

The following table shows the characteristics of **Repsol COLOR RECOFAL** binders:

CHARACTERISTICS	EN STANDARD	UNIT	REPSOL COLOR RECOFAL S-50	REPSOL COLOR RECOFAL S-50 HP	REPSOL COLOR RECOFAL S-100
Penetration at 25 °C	1426	0.1 mm	35-70	35-70	35-70
Softening point	1427	°C	≥ 45	≥ 75	≥ 60
Fraass breaking point	12593	°C	≤ -5	≤ -10	≤ -8
Elastic recovery at 25 °C	13398	%	≥ 20	≥ 30	≥ 40

## RECOMMENDATIONS FOR USE

RECOFAL		Repsol COLOR RECOFAL S-50 and S50 HP	Repsol COLOR RECOFAL S-100
<b>TESTS ON THE ORIGINAL BITUMEN</b>			
Temperature ranges recommended for their application	Mixing	140°C	150°C
	Laying and compaction	130°C	140°C
	Max. plant heating temperature	160°C	170°C
	Min. storage temperature	120°C	120°C

These data are illustrative and not binding, nor subject to specification. The temperatures will depend on the specific viscosity curves of each product.

Excessive overheating of both the binder and the mixture must be avoided, since it can lead to colour changes and/or possible degradation of the binder itself.

Repsol's Technical Support and Development Department can advise customers on the best conditions of use in each case.

### SPECIFIC USES

Our **Repsol COLOR RECOFAL** pigmented synthetic binders make it possible to manufacture hot mixes with mechanical characteristics similar to those achieved with conventional bitumen. They have the following advantages:

- Easy pigmentation for any colour.
- Good resistance to ageing and oxidation.
- Possibility of mixing with the natural colour of the aggregate.
- Uniform product for all types of applications.

The breadth of the **Repsol COLOR RECOFAL** range is designed according to the different applications and manufacturing possibilities of colour mixtures:

#### Repsol COLOR Recofal S-50 and S50 HP

This is the most standardised and most widely used pigmented synthetic binder for the manufacture of colour mixtures applied to singular elements. It allows for bulk supply in manufacturing plants with tanks set up for it, as well as for supply in drums.

#### Repsol COLOR Recofal S-100

Repsol COLOR RECOFAL S-100 allows the same applications as Repsol COLOR RECOFAL S-50 while improving both the mechanical behaviour of the mixture and the desired tonality, enabling a much clearer range of final colours.





# Repsol COLOR Recofal S100 HP



Repsol COLOR RECOFAL S-100 HP is a binder product with properties similar to those of bitumen that is obtained from a mixture of resins, oils and polymers. It is a high-performance pigmented synthetic binder for use in the manufacture of pigmented hot mixes.

Its granular format in the form of “pellets” allows for a direct dosage on the mixer of the mix manufacturing plant, as well as handling and storage in solid state at room temperature.

This enables its use in small volume projects, as well as its transport over both short and long distances.

## APPLICATIONS

Synthetic binders developed by Repsol are applied in special areas such as:

- Paving of roads in parks and gardens.
- Bicycle paths.
- Pedestrian areas.
- Sports tracks.
- Islets and lane divisions.
- Differentiated pavement elements.
- Tracks and paved roads in protected areas, natural parks, etc.
- Special areas for security purposes.
- Wearing layer with light tones in tunnels: more light, safety and lower energy consumption.

## PRODUCT CHARACTERISTICS

The presentation of Repsol COLOR RECOFAL S-100 HP allows it to be stored and handled in a solid state at room temperature. The amount strictly necessary can be used, without the need for prior conditioning. The ideal conditions of use (softening and viscosity) occur when the binder comes into contact with the hot aggregates in the mixer at the manufacturing plant.

The Repsol COLOR RECOFAL S-100 HP formulations has been specially studied to resist UV radiation to minimise possible colour changes. The product is presented in a neutral colour, thereby facilitating the option of using pigments for the manufacture of colour mixtures.

The following table shows the specifications of Repsol COLOR RECOFAL S-100 HP:

CHARACTERISTICS	EN STANDARD	UNIT	REPSOL COLOR RECOFAL S100HP
Penetration at 25 °C	1426	0.1 mm	20-50
Softening point	1427	°C	≥ 85
Fraass breaking point	12593	°C	≤ -20

## RECOMMENDATIONS FOR USE

Repsol COLOR RECOFAL S-100 HP will be dosed in granular format directly on the asphalt plant mixer. It is recommended that the volume of the mix batches be adjusted to 75% of the maximum capacity of the mixer unit.

Operations to lay and compact a pigmented mixture will be carried out following the same criteria as its bituminous equivalent, maintaining the same parameters for its implementation.

All the elements involved in the manufacturing, spreading and compaction processes must maintain optimum cleanliness conditions to avoid undesirable contamination or possible colour changes in the mixture.

Taking into account the conditions of the manufacturing plant, weather, plant-work distances, etc., the indicative recommended working temperatures for Repsol COLOR RECOFAL S-100 HP are as follows:

Temperature of aggregates	Máx. 180°C
Temperature of compaction	Mín. 135°C

These data are illustrative and not binding, nor subject to specification. The temperatures will depend on the specific viscosity curves of each product.

Repsol's Technical Support and Development Department can advise customers on the best conditions of use for the product.

## PRODUCT BEHAVIOUR IN THE MIXTURE

Repsol COLOR RECOFAL S-100 HP allows for the manufacture of any pigmented hot mix, also presenting the following advantages:

- Good resistance to ageing and oxidation.
- Greater resistance to discoloration than traditional synthetic binders.
- Mixture of easy pigmentation for any tonality of colour.
- Possibility of mixing with the natural colour of the aggregate.
- Better mechanical characteristics due to its enhanced formulation.





**REPSOL**

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