RECOMMENDATIONS FOR USE, MANUFACTURE AND APPLICATION

RECOFAL S-100P

1. DESCRIPTION

High-performance pigmentable synthetic binder for use in manufacturing hot mixes, in granular form.

2. PRODUCT PRESENTATION

- Recofal S-100P is a pigmentable synthetic binder presented in granular form as pellets, so it can be measured out directly into the manufacturing plant's mixer.

- For easy handling and measuring, it is supplied in 20 kg hot melt bags, which can be put directly into the plant's mixer. The 500 kg Big Bags facilitate handling when the manufacturing plant has silo or screw dispenser hopper machines.

- The synthetic binder is formed into pellets using powdery materials that not only help form it into pellets but also provide it with non-stick properties in its solid state that allow it to be used and handled at ambient temperatures.

- To conduct quality and control tests or create specifications for the base binder and/or pelletised product, you must request a sample from the Sales Department of Rlesa Asfaltos.

3. MANUFACTURE OF THE PIGMENTABLE MIX

- To manufacture the pigmentable mix you must have the corresponding Working Method developed in the laboratory.

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- The Working Method must be verified in the manufacturing plant prior to manufacture and application,

- Recofal S-100P must be measured directly into the mix in the asphalt mixing plant's mixing equipment.

- Two main requirements must be taken into account for dosing a pigmentable mix with **AC D**-type particle sizes:

    - The mineral dust/binder weight ratio must not be higher than 1.1; calculating, if applicable, the pigment used as mineral dust.
    - The minimum dosage of binder must be 5.5% of the total mass of the mix.

- The following requirements must be taken into account for dosing a pigmentable mix with **SMA**-type particle sizes:

    - The mineral dust/binder weight ratio must not be higher than 1.25; calculating, if applicable, the pigment used as mineral dust.
    - The minimum dosage of binder must be 7.15% of the total mass of the mix.

- The following requirements must be taken into account for dosing a pigmentable mix with **BBTM A**-type particle sizes:

    - The mineral dust/binder weight ratio must be between 1.2 and 1.6; calculating, if applicable, the pigment used as mineral dust.
    - The minimum dosage of binder must be 5.75% of the total mass of the mix.

- The following requirements must be taken into account for dosing a pigmentable mix with **BBTM B**-type particle sizes:

  - The mineral dust/binder weight ratio must be between 1.0 and 1.2; calculating, if applicable, the pigment used as mineral dust.
  - The minimum dosage of binder must be 5.25% of the total mass of the mix.

- The following requirements must be taken into account for dosing a pigmentable mix with **PA**-type particle sizes:

  - The mineral dust/binder weight ratio must be between 0.9 and 1.1; calculating, if applicable, the pigment used as mineral dust.
  - The minimum dosage of binder must be 4.75% of the total mass of the mix.

- To achieve a homogenous pigmented mix, the binder and the pigment must be introduced into the mixer as soon as the hot aggregate begins to enter the mixer. The time it takes to add the binder and the pigment, if applicable, must not exceed 50 seconds. A minimum time of 20 seconds is recommended for mixing in all the components. Under no circumstances should the total mixing time exceed 90 seconds. It is recommended that industrial tests are carried out to adapt these parameters to each individual manufacturing plant.

- Batches should be sized at 75% of the maximum capacity of the mixing unit.

4. APPLICATION OF THE PIGMENTABLE MIX

- Pigmentable mixes should be spread and compacted following the same criteria for their bituminous equivalents, taking special care during the application process to achieve an optimal finish.

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- It is essential that the recommended temperature ranges are adhered to when handling the mix manufactured with Recofal S-100P, in line with the maximum and minimum temperatures shown in the table below, in order to work in areas that have been manually treated or where it is not possible to use conventional machinery:

Aggregate temperature	Max. 180ºC
Compaction temperature	Min. 135ºC

- The pigmentable mix must be applied continuously, avoiding stoppages of the spreading machine and operations that could cause differences in the appearance of the compacted mix.

- The speed and output of the spreading machine must keep pace with the compaction speed, and not vice versa, to avoid creating compacted areas at cooler temperatures that could lead to future degeneration.
- Avoid touching, raking, shovelling or any other manual manipulation of the spread material insofar as possible, as this could result in differences in the final appearance of the mix.

- When it is not possible to use spreading machines, the mix should be applied by other means, including manually, and should leave a compacted surface that reaches the desired height.

- Any mix that is to be applied in areas where it is not possible to use spreading machines must be unloaded away from the application area and later spread on the area or point in question.

- It is essential that two main requirements are met when the mix in these specific hard-to-reach areas:

- Tack coat on a supporting layer with the correct dosage.
- We recommend working with a mix temperature of between 5 and 10 ºC above the minimum temperature required and/or recommended in the Recofal S-100P Data Sheet.

5. COMPACTION OF THE PIGMENTABLE MIX

- The speed of the spreading machine must keep pace with the speed of the compaction equipment. The compactor must work as close to the spreading machine as possible.

- Compaction must be carried out in longitudinal strips, with the compactor not making too broad strokes as this could cause localised temperature losses and differences in the final density of the compacted mix.

- The compacting unit must include, at least, one double-drum vibrating metal compactor capable of achieving the final mix density established in the Working Method.

- When the mix is spread in a confined area bordered by concrete items, curbs, etc., we recommend using a compactor with lightweight tyres with low inflation pressure. This will guarantee the compacting of the mix in these critical areas and allow minor brushing of the edges without breakage or deformation.

- The purpose of this compactor, along with the metal compactor, is to ensure an even surface over the entire width, provided the minimum spreading and compaction temperature is respected.

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- To ensure an optimal finish in confined strips with adjacent edges, adjust the thickness of the spread mix before compacting to the final compacted mix height required by the item in question (curbs, blocks, pavements, etc.).

- Compact manually or use micro-compactors at points where it is impossible to compact with the usual mechanical means.

- To compact in specific areas where it is not possible to use the usual mechanical means, we recommend keeping the mix temperate between 5 and 10 ºC above the minimum required and/or recommended in the Recofal S-100P Data Sheet.