

VEGETABLE-BASED ANTISTRIPPING AGENT FOR HOT MIX ASPHALT (HMA)

APPLICATIONS

iDOP-PHL is a green anti-stripping agent of new generation - totally vegetable origin, which has a strong anti-oxidizing effect, which slows down the aging of bitumen. iDOP-PHL's characteristics:

- it is physically stable in the bitumen at storage high temperature;
- It is liquid at low temperatures;
- it allows to obtain very high performance and perfectly stable bond between bitumen and aggregate in any operational conditions (high environmental humidity, low temperatures, acid aggregate, etc);
- it improves stability and mechanical properties of both PmB and plain bitumen HMA by reducing their moisture sensitivities and by increasing their freeze-thaw cycles resistances;
- doesn't change physical and rheological characteristics of bitumen (penetration degree, softening point – R&B temperature).

ADVANTAGES

Usage of iDOP-PHL guarantees a following advantages:

- It is suitable for both basic and acid aggregates (granite, quartzite, porphyry);
- It is suitable for any climatic zones;
- Changes aggregate's property from a hydrophobic to a hydrophilic;
- Increases resistance to cycles of freezing/thawing;
- Improves the workability of the mixture;
- Provides complete coverage of the aggregate with a film of bitumen.

METHOD OF USE

The preparation of bitumen with iDOP-PHL on-site can be carried out using one of the following methods:

1. With the help of a special installation that ensures the dosing and injection of the additive into the bitumen line;
2. With the help of a special installation that ensures the dosing and injection of the additive into the asphalt mixer;
3. With the help of an adapted installation for feeding and dosing the additive into the bitumen scales;
4. The addition of additives to bitumen tank

The addition of additives to bitumen according to methods 1-3 is executed according to the instructions in the technical documentation of the equipment.

The high thermal stability and convenient packaging form of iDOP-PHL allows it to be directly added to the bitumen in the storage tank at 170°C, notwithstanding keeping anti-stripping capabilities and power intact in time.

The addition of additives to bitumen tank involves:

The presence on site of a separate metal reservoir for bitumen (equipped with a heating system, temperature regulation system, inspection hatch, and recirculation pump) and the ability to dose the additive (volumetrically or gravimetrically); Knowing the quantity of bitumen in the reservoir and the dosage of the additive.

The technological flow for adding additives to bitumen in this case includes the following operations:

- Heating the bitumen to 150...160°C;
- Calculating the required amount of additive, dosing it, and introducing it into the bitumen reservoir;
- Homogenizing the mixture through simple recirculation with the pump for 30...40 minutes (until the bitumen in the reservoir has passed through the pump at least twice).

DOSAGE

The dosage of iDOP-PHL ranges between 0.25% and 0.35% by bitumen weight, depending on the lithological nature of the stone aggregate and according to operational conditions (mixing temperature, HMA type, bitumen type, etc.).

COMPOSITION

Solution of phosphates in vegetal oils.

PHYSICAL-CHEMICAL CHARACTERISTICS

Appearance Viscous	liquid	Brookfield Viscosity at 5°C (cPs)	1700
Colour	Dark-brown	Flash Point	>190°C
Density at 15°C	1,2 kg/l ±0,02	Solubility in water	no

STORAGE

iDOP-PHL can be stored for 36 months in its original, sealed packaging. Depending on the storage temperature the product may assume a different consistency, however the quality of the product will not be compromised.

PACKAGE

The product supplied in 1000 kg IBC tank or 200 kg drums.

WARNING

The dispersion of the pure product into the soil or water must be avoided. For further information on the classification, protection measures and measures in case of fire, please refer to the safety data sheet, available at request.