



# Nybit E binders

COLD & SEMI-WARM APPLICATIONS

Nynas, as the Bitumen Specialist, acknowledges the importance of bitumen consistency to the emulsion producer. Therefore, Nynas offers a wide range of bitumen which is consistent in its quality and which has been specially selected for emulsion production: the Nybit E binders.

Throughout its network of supply points across Europe, Nynas offers the broadest range of products currently available: a whole spectrum of penetrations, from Nybit E 15 (for applications where the end-requirement is a stiff non-tacky finish such as industrial waterproofing or non pick-up bond coats) to Nybit E 290 (for end-applications where workability is critical, such as cold mixes). From some supply locations, Nynas can even offer two ranges of delivery temperatures!

## Performance Attributes

### PRODUCT CONSISTENCY

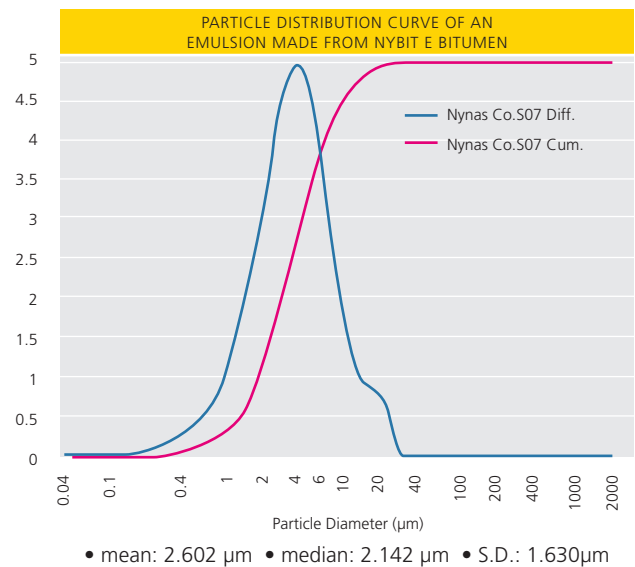
Thanks to a strict crude selection policy and to dedicated storage tanks, these products come with a consistent and guaranteed origin. From a user's perspective this provides two key benefits:

1. Reduced risk of fluctuating performance of the emulsion as a consequence of a new delivery once a formulation is designed and approved
2. Nybit E binders are acidic in nature and do not require additives to enhance their acidity. Their acid value is consistent, delivery after delivery and unmatched on the market.

### UNIQUE BITUMEN PROPERTIES FOR SUPERIOR EMULSION PERFORMANCE AND END-BENEFITS FOR CONTRACTORS AND ROAD USERS.

This chemical nature is essential to facilitate unique emulsion properties.

1. Nybit E binders are easy to emulsify.
2. Given the specific visco-elastic properties of Nybit E binders, the shearing in the emulsion mill is more "efficient":
  - The average particle size is smaller than with most paraffinic bitumen for a given formulation, ensuring better storage stability of the emulsion.
  - The smaller bitumen particle size with a narrower size distribution in the emulsion, promotes higher emulsion viscosities (reducing run-off on job sites) and the possibility to use less bitumen for a given viscosity specification. (cf. CEN 13808)



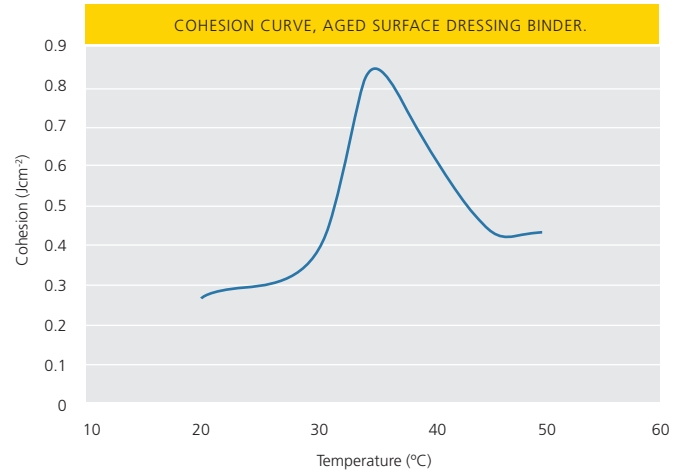
3. The chemical nature of Nybit E binder helps give a sharper breaking performance with rapid cohesive strength development for a given formulation. This is of special benefit in applications such as:
  - Non pick-up bond coats
  - Surface Dressings
  - Microsurfacing
  - Cold mix asphalt (where cohesion develops rapidly under traffic), meaning the road can be trafficked sooner resulting in reduced disruption.



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- Adhesion is improved on a wider range of aggregates allowing for more flexibility in aggregate sourcing.
- Low temperature studies have shown that Nybit E binders are less sensitive to ageing and long term physical hardening than most other bitumens on the market and are less prone to cracking. It is a key performance factor in surface dressings where the binder cohesion is crucial to retain aggregates. This property can also account for the unique self-healing behaviour of cold mixes made from using emulsions made from Nybit E binders. This results in a longer pavement service life increasing cost efficiency.



## Product Information

PERFORMANCE ATTRIBUTES			Nybit E 15	Nybit E 25	Nybit E 40	Nybit E 60	Nybit E 85	Nybit E 190	Nybit E 290
PEN. AT 25°C	mm/10	EN 1426	10–20	20–30	35–50	50–70	70–100	160–220	250–330
R&B	°C	EN 1427	60–76	55–63	50–58	48–54	43–51	35–43	30–38
FLASH POINT	°C	EN ISO 2592	245	240	240	230	230	220	220
DENSITY AT 25°C	g/cm <sup>3</sup>	EN ISO 3838	1.000–1.100	1.000–1.100	1.000–1.100	1.000–1.100	1.000–1.070	1.000–1.070	1.000–1.070
VISC. 135°C	mm <sup>2</sup> /s	EN 12595	700	530	370	295	230	135	100
SOLUBILITY	% weight	EN 12592	99.0	99.0	99.0	99.0	99.0	99.0	99
TOTAL ACID NO.	mg KOH/g	ASTM D664	>2.5	>2.5	>2.5	>2.5	>2.5	>2.5	>2.5

Please contact your local Sales representative for availability of special non-standard grades.

## Applications/Manufacturing emulsions

Nybit E binders can be used for any type of emulsion both anionic and cationic, for road or industrial applications. Only the grade of bitumen needs to be chosen according to the desired end-properties of the emulsion.

Formulating emulsions is finding the right balance among various parameters in order to attain and control the performances and properties of the emulsions (such as breaking index, storage stability and viscosity). The choice and dosage of the emulsifier and other additives are determining factors. Nynas expert teams and dedicated laboratories are available to assist in the formulation of your emulsions as required. Nybit E binders can be used with all standard emulsifiers and emulsions can be produced using conventional equipment.

## Handling and storage

For extensive information on storage and handling of bituminous products, see 'Nynas safe handling of bitumen'. HSE information is published separately and can be found in our product safety datasheets (SDS). Check our web site [www.nynas.com](http://www.nynas.com)

## Availability

Nybit E binders are widely available in various grades and sometimes in various temperature ranges. Please contact your local Sales Office to confirm availability in your area as well as lead times and minimum orders.

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## Product HSE

Nynas is accredited to the quality standard ISO 9001/2000, environmental standard 14001 and health and safety standard 18001.

For product related HSE information please refer to corresponding safety data sheets available on request or download from our website.

## Recycling

Asphalt is 100% recyclable. An appropriate evaluation of the properties of the material should be conducted prior to recycling.

## Product Support

As part of the Nynas product offer, full technical support is available before and after sales from a pan-European team of product specialists dedicated to local markets. Nynas provides assistance and advice to customers on product selection and design, assessing site conditions, end performance requirements and offering optimum solutions for their changing needs.

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## CONTACT DETAILS

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[www.nynas.com](http://www.nynas.com)

Nybit is a Nynas registered trade name.

