

Derivatives from coal pyrolysis — Coal tar and pitch based binders and related products: road tars — Characteristics and test methods

The European Standard EN 14260:2003 has the status of a
British Standard

ICS 75.140; 93.080.20

National foreword

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Derivatives from coal pyrolysis - Coal tar and pitch based binders and related products : road tars - Characteristics and test methods

Produits dérivés de la pyrolyse du charbon - Liants à base de goudron et de brais issus de la houille et produits connexes: goudrons routiers - Caractéristiques et méthodes d'essai

Derivate der Kohlenpyrolyse - Bindemittel aus Steinkohlenteer und Steinkohlenteerpech und verwandte Produkte: direkt destillierter Teer - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 10 July 2003.

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Contents

page

Foreword.....3

1 Scope4

2 Normative references4

3 Terms and definitions.....4

4 Classification.....5

5 Characteristics5

6 Specifications.....5

7 Sampling5

8 Test methods.....5

Annex A (informative) Typical values.....7

Annex B (informative) Warning to use8

B.1 Composition - Data on components8

B.2 First aid measures8

B.3 Handling and storage8

B.4 Disposal considerations9

Foreword

This document (EN 14260:2003) has been prepared by Technical Committee CEN /TC 317, "Derivatives from coal pyrolysis", the secretariat of which is held by IBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

In this European Standard the annexes A and B are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the methods of test required to determine the characteristics for "road tars" and their warning to use for the industrial purposes.

Depending on the required application and the desired properties of the end product, different grades of road tars are available.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1426, *Bitumen and bituminous binders - Determination of needle penetration*

EN 1427, *Bitumen and bituminous binders - Determination of softening point - Ring and Ball method*

EN 13357, *Bitumen and bituminous binders - Determination of the efflux time of petroleum cut-back and fluxed bitumens*

prEN 13702-1, *Bitumen and bituminous binders - Determination of dynamic viscosity of modified bitumen - Part 1 : Cone and plate viscometer method*

prEN 13702-2, *Bitumen and bituminous binders - Determination of dynamic viscosity of modified bitumen - Part 2 : Coaxial viscometer method*

EN 13847:2001, *Coal tar and pitch based binders and related products - Terminology and classification"*

EN ISO 2719, *Determination of flash point - Pensky-Martens closed cup method (ISO 2719:2002)*

EN ISO 3838, *Crude petroleum and liquid or solid petroleum products - Determination of density or relative density - Capillary-stoppered pycnometer and graduated bicapillary pycnometer methods (ISO 3838:1983)*

ISO 3733, *Petroleum Products and bituminous materials - Determination of water - Distillation method*

ISO 6257, *Carbonaceous materials used in the production of aluminium - Pitch for electrodes - Sampling*

NF T 66-029, *Liants hydrocarbonés-Goudrons purs - Détermination de la teneur en naphthalène*

NF T 66-030, *Liants hydrocarbonés- Goudrons purs - Détermination de la teneur en anthracène*

BS 76:1974, *Specification for Tars for road purposes*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13847:2001 apply.

4 Classification

For the purposes of this European Standard, the classification according to EN 13847:2001 applies.

5 Characteristics

The following characteristics shall be determined:

- a) Water content,
- b) Density;
- c) Efflux time (cannot be used for modified road tars);
- d) Distillation;
- e) Softening point;
- f) Softening point of distillation residue on 300 °C;
- g) Needle penetration;
- h) Naphthalene fraction content;
- i) Anthracene fraction content;
- j) Flash point (close cup);
- k) Dynamic viscosity curve for modified road tars measured between 80 °C and 120 °C at 4 different temperatures with an interval of approximately 10 °C between each temperature.

6 Specifications

Specifications of the national standards bodies shall be used.

The typical values given in annex A can be used as requirements.

7 Sampling

The ISO 6257 specifies methods for sampling and preparing samples for testing of road binders.

These methods are applicable to all grades of road tars in liquid or solid form, the latter having softening points higher than 30 °C (determined according to the method EN 1427) in bulk, or in a numbers of containers making up one batch at sites of manufacture, storage of delivery.

8 Test methods

For the determination of the characteristics according to clause 5, the methods listed in Table 1 have to be used.

Table 1 — Test methods

Characteristic	Test methods
Water content	ISO 3733
Density	EN ISO 3838
Efflux time	EN 13357
Distillation	BS 76:1974, appendix D
Softening point	EN 1427
Needle penetration	EN 1426
Naphthalene fraction content	NF T 66-029
Anthracene fraction content	NF T 66-030
Flash point	EN ISO 2719
Dynamic viscosity	prEN 13702-1, prEN 13702-2

Annex A (informative)

Typical values

The typical values in table A.1 can be used as requirements of the road tars.

Table A.1 — Typical values

CHARACTERISTICS	Straight run- and road tar		Modified tar		Composed tar		Tar emulsion
	sdt ^a	cmt ^b	sdt	cmt	sdt	cmt	
Water content (in %)	< 0,3	< 0,3	< 0,3	< 0,3	< 0,3	< 0,3	min. 45
Density at 20 °C (in kg/dm ³)	> 1,05	> 1,05	> 1,05	> 1,05	> 1,05	> 1,05	> 1,05
Efflux time 10 mm at 40 °C (in s)	20 to 140		-	-	20 to 140	-	-
Efflux time 10 mm at 50 °C (in s)	-	20 to 140	30 to 70	-	-	-	-
Distillation till at 300 °C (in %)	15 to 25	10 to 20	-	-	15 to 25	-	-
Softening point (in °C)	-	-	-	> 50	40 to 65	50 to 70	-
Softening point of distillation residue at 300 °C (in °C)	35 to 55	35 to 55	-	-	35 to 55	-	-
Needle penetration (in 10 ⁻¹ mm)	-	-	-	-	-	20 to 40	-
Naphthalene fraction content (in %)	< 2	< 2	-	-	< 2		-
Anthracene fraction content (in %)	< 4	< 4	-	-	< 4		-
Flash point (in °C)	-	-	-	> 101	-	> 101	> 101
Dynamic viscosity at 80 °C (in mPas)	-	-	-	< 60 000	-	-	-
Dynamic viscosity at 120 °C (in mPas)	-	-	-	> 300			-
^a surface dressing tars ^b hot coated macadam road tars NOTE Straight run – and roads tars for hot coated macadam can also be used in cold applications.							

Annex B (informative)

Warning to use ¹⁾

B.1 Composition - Data on components

- ¾ Chemical characterization of Road tars
 - ¾ CAS. N° Designation: Void.
 - ¾ Identification number (s): Void.
 - ¾ EINECS Number: Void.
 - ¾ Description: Complex mixture of polynuclear aromatic and heterocyclic hydrocarbons.
 - ¾ Dangerous components: Benzo (d,e,f) chrysene < 1 %

B.2 First aid measures

- ¾ General information: Instantly remove any clothing soiled by the product.
- ¾ After inhalation: Supply fresh air; consult doctor in case of symptoms.
- ¾ After skin contact: Instantly wash with water and soap and rinse thoroughly.
After contact with the hot product, cool rapidly with cold water.
Do not pull solidified product away from the skin, seek medical treatment.
- ¾ After eye contact: Rinse opened eye for several minutes under running water.
- ¾ After swallowing: In case of persistent symptoms consult doctor.

B.3 Handling and storage

- ¾ Handling.
 - ¾ Information for safe handling: Thorough dedusting, ensure good ventilation, exhaustion and the workplace.
Open and handle container with care.
 - ¾ Information about protection against explosions and fires: Keep breathing equipment ready.
Fumes can combine with air to form an explosive mixture.
- ¾ Storage
 - ¾ Requirements to be met by storerooms and containers: Only stored in heated containers.
 - ¾ Information about storage in one common storage facility: Not required.
 - ¾ Further information about storage conditions: Keep container tightly sealed.

1) The latest edition of the publication of the Material Safety Data Sheet of the product applies

B.4 Disposal considerations

- ¾ European waste catalogue : The waste code classification is to be carried out according to the European Waste Catalogue (EWC) specifically for each branch of industry and each type of process.
- ¾ Uncleaned packagings: Disposal must be made according to official regulations.
Must not be disposed of together with household garbage.
- ¾ Recommendation: Disposal must be made according to official regulations.

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