BUSINESS ENVIRONMENT

The parties interested in the bituminous binder market are the following industries:

- the bituminous binder producers,
- the road construction industry: asphalt producers and contractors,
- the waterproofing, roofing, flooring and building industries using bituminous binders,
- the adhesive, painting and specific industries using bituminous binders,
- and the public authorities, such as road and building administrations.

The European Union market consumption for the bituminous binders is approximately 11 million tons in 2015 in an international market over 100 million tons.

BENEFITS

The EN standardisation documents developed by the CEN/TC 336 describe test methods and specifications of the bituminous binders which facilitate their evaluation and their most appropriate selection for each application (fit for purpose and intended use).

The CEN/TC 336 standardisation documents contribute to:

- comply with the requirements of the CPR\(^1\) (previously CPD),
- eliminate commercial trade barriers between the European countries for the sake of users, contractors, producers and authorities as an objective of the CPR,
- reduce the product costs by the use of harmonized test methods and specifications,
- use common reference tools within European and trading countries.

PRIORITIES

The priorities of the CEN/TC 336 are:

- establish and develop reference European product specification standards for users, contractors, producers and authorities complying with the CPR
- establish and develop reference test methods describing the bituminous binders' characteristics and performance,
- develop specification standards for bituminous binders for paving related to their performance.

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1 BUSINESS ENVIRONMENT OF THE CEN/TC336

1.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal, societal and/or international dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this CEN/TC and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

**Economical factors**

- The European bituminous binders market is decreasing in quantity, but increasing in quality and types of applications (road and industrial). This has resulted in an increase of trade, especially cross-border trade.
- New markets are emerging due, for example, to the need to extend and improve road infrastructures in Eastern Europe. Road construction is the prominent field of application for bituminous binders.
- The foreseen traffic increase and heavier traffic put higher constraints on asphalt pavements and road design and therefore higher performance requirements.
- As a result of this increase in user requirements, the binder performances must be better evaluated.
- Finally, for all the applications, the value for money of the products has to be demonstrated, especially for modified and special bituminous binders.

**Technical and environmental factors**

- The European countries plan to build a new and common system of specifications to describe the paving bitumen (including modified special binders, cut-back bitumens, fluxed bitumens and bituminous emulsions). The ultimate target is a system based on resulting performance and not on prescriptive requirements when possible.
- Research, technology exchanges and finally, standardisation are necessary to develop reliable test methods for assessing product performance and to ensure a higher harmonisation level.
- Increasing emphasis on environmental and health aspects triggers the development of new materials and techniques, e.g. reduction of application temperatures, higher use of bituminous emulsions, introduction of renewable resource components, …

**Legal factors**

- The CPR which lays down the Basic Works Requirements\(^2\) to ensure the free movement of the construction products within Europe is relevant to paving bitumens (pure and modified), fluxed bitumens, cut-back bitumens and bituminous emulsions. The CPR, which repealed CPD89/106/EEC is in force since April, 2011\(^3\) and requires the CE marking of the construction products in the European Union as well as establishment of Declaration of Performance (DoP).

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\(^2\) Formerly designated as Essential Requirements in the CPD.

\(^3\) With some obligations only applicable from July, 1st, 2013
• A mandate M/124 was given to CEN/CENELEC concerning the execution of standardisation work for harmonised standards on road construction products in 1998 within the context of the CPD.

The CEN/TC 336 presented four answers: CEN/TC 19 SC 1 reply of 2000-08-01, CEN/TC 336 N22 modification of the response of 2001-06-21, CEN/TC 336 N293 amendment to the answer to the mandate approved by CEN/TC336 on 2009-05-14&15, CEN/TC 336 N0545 amendment to the answer to the mandate. However TC 336 received some objections regarding document CEN/TC 336 N0545 from the CEN consultant in November 2017 and consequently this amendment was never submitted to European commission. In fact only the document referenced CEN/TC 336 N22 was formally accepted by the commission and only this document is used as reference by HAS consultant for assessing harmonised standards. The answers required the development of harmonised standards and the CE marking of the relevant products.

• The EC Regulation 1907/2006, REACH, (Registration, Evaluation, Authorisation and Restriction of Chemical substances) has required the registration of bitumen since 2010.

• Other regulations apply to bituminous binders like for all the chemical substances in Europe:
  - the legislation on substances in construction products as detailed in the EC web page (CP-DS: legislation on substances in construction products, i.e. EC website to identify all relevant regulations in the field of dangerous substances in construction products);
  - some national specification, classification or labelling regulations.

Political factors

• The European Union trans-European Network project, TEN-T has the objective of allowing goods and people to circulate quickly and easily between Member States and assuring international connections over the 5 000 000 km of paved roads, out of which 65 100 km are motorways. It promotes the improvement of the major highway infrastructures needed by the internal market without frontiers.

• The enlargement of the European Union has an effect upon the market.

1.2 Quantitative Indicators of the Business Environment

The following data present the consumption of:

a) the various bitumen grades, and
b) of the bituminous emulsions in Europe supporting the CEN/TC 336 action.

   a) European Bitumen Consumption established by Eurobitume (in thousands tons)
http://www.eurobitume.eu/home/

   b) European Bituminous Emulsions Consumption established by IBEF4 (in thousands tons)
http://www.ibef.net/fr/

The total bitumen consumption decreased by around 40% from 2005 to 2015 (19 to 10,8million of metric tons) essentially due to the decline in road construction and maintenance.

4 IBEF: International Bitumen Emulsion Federation.
According to Eurobitume, the European bitumen industry (EU 28) produces approximately 15 million tonnes each year for use in the manufacture of road materials and a wide variety of specialist building and industrial products. The majority (85–90 per cent) is used in the construction and maintenance of bituminous or asphalt roads. Decrease of the number of production sites (refineries) in Europe induces an increase of the amount of bitumen and bituminous products transported all over Europe and consequently of the cross-border trade.

The bitumen consumption in Europe is seasonal with some variations around the European average, country by country.

2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

The CEN/TC 336 specifications standards describe the product characteristics which help in the selection of the most appropriate binder for a given application (product fit for purpose and intended use).

These standards also contribute to:
- eliminate commercial trade barriers between the European countries for the sake of users, contractors, producers and authorities,
- comply with the CPR requirements,
- reduce the costs by the use of harmonised test standards and specifications,
- use common reference tools within European and trading countries.

3 PARTICIPATION IN THE CEN/TC 336

All the CEN national members are entitled to nominate delegates to the CEN Technical Committees and experts to the Working Groups, ensuring a balance of all interested parties. Participation as observers of recognised European or international organisations (such as stakeholders) is also possible under certain conditions. Experts interested in participating in the CEN/TC 336 activities should contact their national standardisation organisation.

4 OBJECTIVES OF THE CEN/TC 336 AND STRATEGIES FOR THEIR ACHIEVEMENT

4.1 Defined objectives of the CEN/TC 336

Scope of the CEN/TC 336:

Terminology, methods of sampling, standardisation of test methods, classification and specifications for bituminous binders.

Group of products covered by standardisation: petroleum refined bitumens, modified bitumens, bituminous emulsions, fluxed and cutback bitumens - Used for paving and industrial applications.

Objectives of the CEN/TC 336:

The objective of the CEN/TC 336 is to develop standardisation documents (EN Standards, Technical Specifications and Technical Standards):
- as reference European standards for users, contractors, producers and authorities,
- to describe the bituminous binders characteristics,
4.2 Identified strategies to achieve the CEN/TC336’s defined objectives.

The CEN/TC 336 requests the industry and administration involvement and contribution through representative organisations such as Eurobitume, EAPA and CEDR, to assist in the definition of the binder properties. This participation is particularly useful to take into account the bitumen industry concerns, and all other stakeholders’ considerations from the road industry, the contractors as well as the road administrations. The CEN/TC 336 convenes its member a regular basis to take appropriate resolutions in conjunction with the progress of its work and uses the CEN Internal Balloting portal to collect the voting results of its members between two meetings. It communicates its documents and information exclusively through the CEN electronic committee since 2012.

Advisory Group

The CEN/TC 336 established an Advisory Group in 2000 to coordinate its activities with a limited number of attendees, but representing as far as possible all the interested parties. The Advisory Group elaborates technical proposals and recommendations to the CEN/TC 336 as well as on the planning and steering of its activity.

Cooperation

The CEN/TC 336 coordinates its activity with other CEN Technical Committees whenever useful and cooperates with them to manage matters arising from the interface of their scopes, especially:

- CEN/TC 227, Road materials. Road construction is the prominent field of application for bitumen and related products and the liaison with CEN/TC 227 is aimed at optimal tuning of the standards from both the Technical Committees.
- CEN/TC 254, Flexible sheets for water proofing
- CEN/TC 350, Sustainability of construction works

The CEN/TC 336 has established formal liaisons with the CEN/TC 227 and CEN/TC351. The CEN/TC 336 secretary is informed of their new documents as observer in their electronic committee and circulates them to the CEN/TC 336 when necessary.

The CEN/TC 336 maintains liaisons with external organisations for which an exchange of information is judged beneficial for both parties: EAPA5 and Eurobitume. Some representative organisations have a major interest in the standards developed by CEN/TC 336:

- professional organisations: Eurobitume, EAPA, IBEF6
- authorities and research institutes: FEHRL7, CEDR8, RILEM9.

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5 EAPA: European Asphalt Pavement Association.
6 IBEF: International Bitumen Emulsion Federation
7 FEHRL : Forum of European National Highway Research Laboratories
For the CE marking purposes, the CEN/TC 336 is in contact with the Road Construction Products Sector Group of Notified Bodies for the CDP, SG15. The CEN/TC 336 chairman and secretary participate to their meetings when necessary and inform the CEN/TC 336.

**Expertise**

The CEN/TC 336 is in contact with international organisations such as the Americna TRB\(^{10}\) to share knowledge and expertise, and is open to do it with any organisation with some experience in field of bituminous.

**4.3 Environmental aspects**

According to the CEN BT Resolution C91/2008, the CEN/TC 336 has to take into account the environmental aspects into its standards. However, this is only applicable to laboratory test methods by using the minimum quantities of products, solvents and energy sources to reduce the emissions in air and water, and the wastes.

**5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC336 WORK PROGRAMME**

**Risk analysis**

The bitumens and bituminous binders are very complex substances per nature which have been characterised so far by empirical test methods. However, the CEN requires now establishing performance specification standards.

The CEN/TC 336 draws the attention to the fact that, before being implemented, performance related standards need to be validated against field performance by pilot tests or laboratory tests. This requires significant resources which, at present, are not always available.

Also, the CEN standardisation rules require establishing precision for the new test methods and improving it for the existing ones. Pre-normative studies have therefore to be carried out to evaluate many influencing parameters which, again, require significant resources.

The success of the CEN/TC 336 standardisation work is therefore conditioned by the support of the European research organisms.

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8 CEDR: Conference of European Directors of Road.
9 RILEM: Réunion Internationale des Laboratoires d’Essais et de Recherches pour les Matériaux et les Constructions.
10 TRB: Transportation Research Board.