

BUSINESS PLAN

CEN/TC 145

PLASTICS AND RUBBER MACHINES

EXECUTIVE SUMMARY

Business Environment

The European plastics and rubber machinery industry represented in 2015 a total of around 1,000 companies, which together had an annual turnover of over 13,5 billion euro. A large number of companies (with employees and sales) are integrated into other industries, such as automotive, electrical/electronic, building, packaging etc. and are classified as part of these industries.

In 2015 the European plastics converting industry in total represented almost 60,000 companies predominantly medium-sized, employing more than 1,5 million employees with a turnover amounting to over 340 billion euro.

Benefits

From 1985 when the first standard concerning the safety of injection moulding machines was published, 19 standards have been adopted. This has given a clear reference not only to designers, manufacturers, users and safety inspectors but also to the importers of machines that increasingly enter the European market from other countries, mainly China, India and Brazil.

Moreover, in the light of the European Directives on market surveillance, standards on plastics and rubber machinery safety allow the Authorities of the Member States to verify the compliance of the imported machinery with the standards in force in Europe, in order to avoid that unsafe machines are installed in workplaces.

Priorities

Technical factors: beside the goals concerning safety, it must be pointed out that some matters that now are subject of EUROMAP (Europe's Association for Plastics and Rubber Machinery Manufacturers) Recommendations like for example: Determination of important machinery data - Energy consumption - Determination of the working cycle etc. could be in future standardized by TC 145 and this would give a relevant advantage also for plastics and rubber machines users in order to compare the individual machines on the basis of standardized specifications.

Social factors: standardization helps designers to implement the safety level of machines and users to improve the safety level in workplaces.

Legal factors: need for manufacturers and importers to attest, through the CE Marking, the compliance of their products with the Essential Requirements of the Machinery Directive.

1 BUSINESS ENVIRONMENT OF THE CEN/TC

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.

The New Approach Directives have originally affected the plastics and rubber machinery sector, by increasing the production cost of machines and auxiliary equipment.

In recent years, also the presence in the European market of new international competitors has pointed out that machines safety characteristics are not always in line with the European Directives, Regulations and with harmonized safety standards. Also in connection with this reality, safety standards allow to facilitate the inspection and verification of the machines that enter the European market.

In the light of what mentioned above, safety at plastics and rubber converting industries workplaces is the priority of CEN/TC 145.

1.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the CEN /TC:

Overview on the European Plastics and Rubber Machinery Industry in 2017

Year	World Production*	Previous Year	EUROMAP Production*	Previous Year	Shares in %
	(m €)	%	(m €)	%	EUROMAP
2014	32,536	5.6	13,016	1.8	40.0
2015	33,896	4.2	13,532	4.0	39.9
2016	35,048	3.4	13,803	2.0	39.4
Forecast					
2017	36,240	3.4	14,079	2.0	38.8

Source: VDMA / National Statistical Offices

EUROMAP stands for 9 countries – incl. Germany and Italy

Core Machinery

* include estimates

2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

The standard published by CEN/TC 145 remove the technical barriers in the European market and meet the most recent technological innovations and enhance the safety level of machines.

CEN/TC 145 standards respond to the need of designers, manufacturers, users, inspectors and importers of machines to have at their disposal clear and officially recognized documents.

Moreover, the existence of these standards can contribute to the improvement of safety requirements in workplaces.

Outputs from the standardization efforts support technological development, societal acceptance and market expansion by:

- identifying need for, and encouraging the manufacturing and use of, safe plastics and rubber machines
- developing risk assessment for each plastics and rubber machine
- supporting regulation in the area of plastics and rubber machines
- supporting communication of accurate and comparable information on plastics and rubber machines.

3 PARTICIPATION IN THE CEN/TC

All the CEN national members are entitled to nominate delegates into CEN Technical Committees and experts in Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or international organizations is also possible under certain conditions. To participate in the activities of this CEN/TC, please contact the national standards organization in your country.

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

4.1 Defined objectives of the CEN/TC

Till today the following safety standards of CEN/TC 145 have been published in the Official Journal:

Standard	WG	Title of the standard	First publication in OJEU
EN 201:2009	1	Plastics and rubber machines - Injection moulding machines - Safety requirements -	18.12.2009
EN 289:2014	2	Plastics and rubber machines – Compression moulding machines and transfer moulding machines - Safety requirements	13.2.2015
EN 422:2009	5	Plastics and rubber machines - Blow moulding machines - Safety requirements	8.9.2009
EN 1114-1:2011	3	Plastics and rubber machines - Extruders and extrusion lines - Part 1: Safety requirements for extruders	29.2.2012

EN 1114-3:2001 +A1:2008	3	Plastics and rubber machines - Extruders and extrusion lines - Part 3: Safety requirements for haul-offs	8.9.2009
EN 1417:2014	4	Plastics and rubber machines - Two-roll mills - Safety requirements	15.1.2016
EN 1612-1:1997 +A1:2008	9	Plastics and rubber machines - Reaction moulding machines - Part 1: Safety requirements for metering and mixing units	8.9.2009
EN 12012-1:2007 +A1:2008	6	Plastics and rubber machines - Size reduction machines - Part 1: Safety requirements for blade granulators	8.9.2009
EN 12012-3:2001 +A1:2008	6	Plastics and rubber machines - Size reduction machines - Part 3: Safety requirements for shredders	8.9.2009
EN 12012-4:2006 +A1:2008	6	Plastics and rubber machines - Size reduction machines - Part 4: Safety requirements for agglomerators	8.9.2009
EN 12013:2000 +A1:2008	7	Plastics and rubber machines - Internal mixers - Safety requirements	8.9.2009
EN 12301:2000 +A1:2008	8	Plastics and rubber machines - Calenders - Safety requirements	8.9.2009
EN 12409:2008 +A1:2011	10	Plastics and rubber machines - Thermoforming machines - Safety requirements	29.2.2012
EN 13418:2013	12	Plastics and rubber machines - Winding machines for film or sheet - Safety requirements	28.11.2013
EN 14886:2008	15	Plastics and rubber machines – Band-knife cutting machines for block foams - Safety requirements	8.9.2009
EN 15067:2007	14	Plastics and rubber machines - Film converting machines for bags and sacks - Safety requirements	8.9.2009
EN 16474:2015	17	Plastics and rubber machines - Tyre curing machines - Safety requirements	15.1.2016

4.2 Identified strategies to achieve the CEN/TC.s defined objectives.

With the activation of ISO/TC 270, the business plan of CEN/TC 145 has been defined in two directions:

- to define ISO EN safety standards for the most widespread plastics and rubber machines in Europe and worldwide: injection moulding machines and extruders
- to verify and eventually – if necessary – update at the deadline the other EN standards into force or combine them (like it occurred for blade granulators and shredders) in one document only, on the basis of the state of the art of the different technologies.

4.3 Environmental aspects

A plastics and rubber machine life is quite long (average 10-15 years, in Europe) even if it depends on the end users. In CEN/TC 145 standards, even though the environmental machinery impact is not relevant, efforts will be made to inform the users about the measurement of energy consumption, the appropriate use and the disposal of the fluids used in the work cycle of the machine.

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

TC 145 productivity is unfortunately affected by two important factors:

- 1) only few experts (mainly from France, Germany, Italy, Switzerland, the UK, occasionally from Austria) are available to take part in all CEN/TC 145 active WGs. Therefore, few standards can be revised each year, as the active experts are overloaded;
- 2) experts from users' companies (plastics and rubber converters) that benefit directly from the harmonized standards applied for designing the machines installed in their workplaces, very seldom take part in CEN/TC 145 activity and this is a negative factor, as it does not stimulate the support of the product users to machinery safety.