BUSINESS PLAN

CEN/TC 196
Mining machinery and equipment - Safety

EXECUTIVE SUMMARY

Mining machinery and equipment, for the extraction of solid mineral substances, excluding the preparation and processing of the minerals

Business environment

- Europe represents near 35% of 27.73 billion € of the world exports;
- Parties involved:
  - Manufacturers and users of mining machinery (Coal Producers/Mine operators etc.)
  - Testing/certification bodies

Benefits

- There is a real need for European Standards to ensure that the health and safety of workers is maintained and to ensure that applied safety standard previously in place at the national level remain.
- Using European Standards as opposed to the extensive exercise currently required to satisfy the Essential Safety Requirements of the EU Machinery Directive (2006/42/EC)
- Simplified Technical File by using Standards in order to avoid additional cost on manufacturers for testing machinery
- It is recognised throughout the world that European manufacturers have traditionally produced machinery to high safety standards. There is a definite move towards acceptance of European Standards and testing facilities globally, giving the European manufacturer increased competitive edge

Priorities

To make European standards available related to:

- Safety requirements for mining machinery and equipement
- Improve safety in mine sites significantly

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: -

- Europe, being world leaders in manufacture of mining machinery, have a large market share in the export of equipment worldwide
- much EU cross-boarder ownership of companies (multinationals)
- European countries support world markets
- Sweden, largely involved with hard-rock mining, who also play a part in the mining machinery market, tend to dominate in supply of hard-rock tunnelling equipment.

Parties involved are:

- manufacturers and users of mining machinery (Coal Producers/Mine operators etc.).
- testing/certification bodies.

Real or potential technical barriers to trade related to the scope of the CEN committee, due to diverging national, regional or other. 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

International trade and standardization aspects

A lot of projects of CEN/TC 196 for mining equipment use ISO Standards especially standards elaborated by ISO/TC 127 “Earth-moving machinery” and ISO/TC 82 "Mining" as normative reference documents. For several project agreements on parallel processing according to the Vienna Agreement exist.

Between CEN/TC 196 "Mining machinery and equipment – Safety", ISO/TC 82 “Mining”, CEN/TC 151 "Construction equipment and building material machines - Safety", ISO/TC 127 "Earth-moving machinery" and ISO/TC 195 “Building construction machinery and equipment” a close co-operation exists ensuring a co-ordination of the activities.

Market access outside the European Community is frequently restricted by technical barriers to trade based on national regulations for health, safety and environmental issues. A free market access can be achieved by applying justified European Standards transferred to the ISO level and vice versa. Those standards have to be supported by the national legislation in the particular countries for being effective. The international model of the UN Economic Commission for Europe (UN ECE) is an excellent example for creating those technical legislation at national level. The technical details within this international model will be specified by international standards which will allow a harmonisation of the market access.

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:

Exports of mining machinery out of the EU-28 countries increased from 2005 to 2017 from 6.3 billion € to about 7.4 billion €.

With regard to current international trade and standardization aspect, many countries of the world, particularly China, Russia, Australia and South Africa and the GSO (***G***ulf Cooperation Council ***S***tandardization ***O***rganization) are adopting and accepting the standards generated within Europe. Certain other countries, such as India, have yet to follow and, although there is some resistance, cases are being put forward for the adoption of European/International standards to promote global harmonization and thereby remove demands for amendments to machinery in order to comply with national standards. Again, a very time and cost consuming exercise. This factor cannot be stressed too highly and the experience and quality of European engineering as world leaders in this field make European Standards ideal standards for world-wide adoption.

2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

It is anticipated that benefits will result from:

- Using European Standards as opposed to the extensive exercise currently required to satisfy the Essential Safety Requirements of the EU Machinery Directive (2006/42/EC)
- Simplified Technical File by using Standards in order to avoid additional cost on manufacturers for testing machinery
- it is recognised throughout the world that European manufacturers have traditionally produced machinery to high safety standards. There is a definite move towards acceptance of European Standards and testing facilities globally, giving the European manufacturer increased competitive edge
- There is a real need for European Standards to ensure that the health and safety of workers is maintained and to ensure that applied safety standard previously in place at the national level remain.
- Fullfill international requirement in automation with own standards.

3 PARTICIPATION IN THE CEN/TC

All the CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to 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

Based on the considerations above, the CEN/TC proposes the following objectives and strategic directions for its future work:

4.1 Defined objectives of the CEN/TC

The objectives of the TC 196 are:

- To elaborate standards on machinery safety for underground mining, tunnelling applications and surface mining with the exception of machinery used in the oil and gas extraction industries
- Machine safety standards (Type C-standards according to EN ISO 12100) giving detailed safety requirements for a particular mining machinery or equipment or a group of machines. In the context of the mandate M/396 which support the Machinery Directive 2006/42/EC each European Standard will be harmonised. It means that the ENs address the essential requirements of the Machinery Directive listed in this Directive, by specifying requirements/measures for reducing/eliminating the risk associated with the hazards relevant to the products covered by the standard. As each standard gets published, it can then be used by the manufacturers and suppliers as an alternative to the Machinery Directive for claiming “presumption of conformity” with the relevant Essential Safety Requirements (ESR) of the Directive;
- To adjust the work programme to meet market needs.
- To work in co-ordination with CEN and ISO committees dealing with related activities impacting on machines for use in the underground mining industry.
- Advanced automation brings ISO standards to CEN and the Machinerery Directive.

The above objectives will:

- Ensure a transition from a legal framework based on approval of machinery safety through national requirements and standards to one of essential requirements supported by technical standards.
- Contribute to eliminate trade barriers across the European market.
- Provide a common set of European Standards for use internationally thereby promoting a global market

CEN/TC 196 will observe the essential principles for standardisation (global openness and transparency, consensus, technical coherence and national commitment) in its work. In addition, the standards prepared by CEN/TC 196 shall not restrict the further development of the products and shall encourage the development of high safety levels.

The scope of CEN/TC 196 encompasses the following kinds of mining machinery and equipment:

1. Specialized mining machinery and equipment for opencast mining
   Examples include:
   - conveyors
   - high wall miners
   - rock drill rigs
   - continuous surface miners

2. All underground mining machinery and equipment for the extraction of solid mineral substances

Examples include:

- Shearer loaders
- Plough systems
- Roof support
- Road headers,
- Continuous miners,
- Rock drill rigs,
- Raise boring machines,
- Shaft boring machines,
- Mining auger boring machines,
- High wall miners,
- Load haul dumper (LHD),
- Special refuge/rescue chambers
- Machinery and equipment for underground mine development.

Excluded:

Excluded:

- Drill rigs for soil and rock mixture (covered by CEN/TC 151)
- Tunnel boring machines (TBM) and associated machines and equipment (covered by CEN/TC 151)
- Machines and equipment for the preparation and processing of minerals (covered CEN/TC 151)
- Machines and equipment for oil and gas extraction;

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

The work undertaken by CEN/TC 196 comprises 13 mandated work items, 8 of which were published. The work programme is divided into 7 subject areas with 3 active working groups established.

Structure of the TC:
WG 1 Mobile machines at the face (Vienna agreement)
WG 2 Mobile machines for underground mines (2018 standard published)
WG 3 Machines for underground mines - Roof support (activ)
WG 4 Mining ventilation machinery (no activities)
WG 5 Armoured face conveyors (no activities)
WG 6 Continuous handling equipment and systems (no activities)
WG 7 Noise requirements (no activities)

Liaisons have been established with:

- CEN/TC 151 Construction equipment and building material machines - Safety
- ISO/TC 82 Mining

Reflecting the tendency to transfer European Standards to ISO level and to elaborate standards in parallel under the Vienna Agreement respectively, the liaisons with ISO/TC 82, ISO/TC127 and ISO/TC195 will become more important in the future.

4.3 Environmental aspects

The documents elaborated by CEN/TC 196 do not explicitely deal with such aspects as these are not part of the Essential Health and Safety Requirements of the Machinery Directive.
Environmental aspects will be evaluated again during the revision of standards which CEN/TC 196 is responsible for. CEN/TC 196 will follow the recommendations in the adoption of a New Work Item, clause 6 and carefully check the environmental aspects which could be relevant on new projects and will bring in environmental expertise from the experts in the working group combined with the environmental checklist. In case of uncertainty, CEN/TC 196 will contact the CEN Environmental Helpdesk (CEN/EHD).

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

Due to the small- and medium-sized structure of industry and the increasing stress of competition it becomes more difficult for the industry to provide experts for the standards elaboration. A similar tendency has to be recognised regarding the participation of experts from health and safety organisations due to financial restrictions.

The technical and editorial modification of basis documents for standardization, which is carried out in unnecessary short intervals, causes delays and frustration in the Committees responsible for the elaboration of Type C-standards.

Considering the improvements made in the last two years regarding the procedures for assessing standards supporting European Directives by the HAS consultants there seems to be further chances for accelerating and simplifying in the co-operation between working groups and HAS consultants. This is particularly the case regarding items which are common in different draft standards. Such items should be agreed once and then be applied uniformly in each standard. Such a procedure will improve the consistency and therefore the quality of the European Standards of the particular sector.

The current work program includes:

- Amendment EN ISO 19225:2017/prA 1 (WI 00196039)
- Revison EN 1804 series part 1 – part 3(WI 00196036, WI 00196037, WI 00196038)
- EN PWI Rock drill rigs and rock reinforcement rigs – Safety (WI 00196040)

The EN 12111 Tunnelling machines - Road headers and continuous miners - Safety requirements will be transferred from CEN/TC 151 in the workprogram of CEN/TC 196.