BUSINESS PLAN

CEN/TC 188
CONVEYOR BELTS

EXECUTIVE SUMMARY

Business environment
Conveyor belts are used in almost every country in the world and, in one form or another, in almost every industrial sector; from air transportation and mining to packaging and supermarkets; from vending machines and office equipment to agricultural, food and process industries, [and also in the treadmills of gymnasia and sporting clubs]. As a broad generalization they are classified as either bulk carrying conveyor belts or light conveyor belts. This generalization however has its limitations and some applications could be described as bulk carrying, but the type of conveyor belt employed might be described as a light conveyor belt. A brief résumé is given in EN ISO 21183-1.

Benefits
Many products that are sold across Europe today are obliged to meet the requirements of individual member countries' standards. This can lead to a multiplicity of products having essentially the same end-use but which must fulfil the varying requirements from state-to-state across Europe. Clearly, cost savings are implied if manufacturers only have to meet one pan-European set of requirements.

It is also of relevance that institutions offering certification of compliance services to the standards within the market are subjected to competition within Europe. The establishment of European Standards will inevitably lead to competition between testing institutions, particularly relevant where one such institution has a monopoly in an individual country. The subsequent reductions in the cost of testing to comply with national standards in comparison to a European Standard will clearly have significant economic implications.

Parties that benefit from the standardization process are far greater than the number of participants. This is a not unusual situation where the expertise lies in the manufacturing and polymer engineering industries and, although major users of bulk carrying conveyor belts in industries such as mining and power generation and steel production contribute their own particular specialist expertise, the vast number of beneficiaries worldwide are unaware of the tremendous effort given to making the product safer and more reliable.

Priorities
The priority has been the development of specifications for general purpose bulk carrying conveyor belting based on plied rubber textile reinforced technology, polymer-covered solid woven belting or on steel cord reinforced belting. A pre-requisite for the development of specifications has been the development of accurate, repeatable and reproducible methods of test. This programme has been developed in parallel with the corresponding ISO committee, TC 41/SC 3, wherever possible and TC 188 will continue this parallel development of standards wherever possible.

1 BUSINESS ENVIRONMENT OF THE CEN/TC 188 “Conveyor belts”

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:

Political factors
It is often difficult to segregate politics, whether national or international, from the economics of international trade and the conditions which affect the economic viability of an industry, but there can be no doubt that the fiscal ideologies of politics in its narrowest sense have far reaching effects. In the UK, for example, the import of surface cast coal from countries which enjoyed government subsidies and the decision to expand gas fired power stations at the expense of coal fired power stations was, at least in part, an ideologically driven policy which used, now accepted as such, spurious economic arguments for its fulfillment. The result for the coal mining industry is widely recognized. What is not so widely recognized and has received almost no publicity, is the knock-on effect that the demise of the coal mining industry has had on other industries, quite big in themselves, that supplied those coal mines with tools, fluids, oils, greases, gearboxes, cutters, cables, compressors, air filters, generators, switchgear, hydraulic jacks, roof bolts, drills, safety equipment, conveyors and conveyor belts. The EC Commission have been supportive of safety requirements for conveyor belts for general purpose applications (where the risks are relatively small and limited) but due to the delay in producing safety requirements for underground installations (caused by the technical, legal and political complexity) the Commission decided to discontinue any financial support for this work. As a consequence the time frame for its completion has been somewhat difficult to estimate. These standards encompass the consideration of hazards far greater than those associated with general-purpose applications as well as a greater risk of their occurrence. As they are very much supportive of European legislation such as the Directives 98/37/EC on Machinery, 94/9/EC on explosive atmospheres, 92/104/EEC on Health and Safety at Work in underground extracting industries, this presented TC 188 with something of a dilemma, following the discontinuation of funding from the EU Commission.

Economic factors
Despite very rigorous and competitive tendering, the supply of bulk carrying conveyor belts to the coal mining industry in the UK prior to 1984 exceeded €40 million per annum. The total usage of all other kinds of conveyor belts in the UK during this period was in the region of €20 - 25 million.

A similar story can be seen in some other coal rich regions such as Germany. In other countries such as Russia and Poland it is the pressure of the current political situation and the lack of appropriate technologies which are the factors most affecting the economics of conveyor belt production. On the other hand in markets such as China, the appropriate manufacturing technology is available and the demand from the National Enterprise Boards is enormous, but the need for standardization is particularly relevant if the industries are to survive in what will eventually become a level playing field, especially if the purchasing power of the users is omnipotent, rather than the vagaries of international political economics.

Of course variations in the price of raw materials from the plastics, rubber, textile and adhesives industries will in the long term tend to push the price of conveyor belting upwards, but like so many other products, the greater the added value in terms of advanced technology, the less the percentage impact on the selling price of increases in raw materials costs. Generally speaking, looked at in terms of cost per lifetime and reduction of operating risk, this tendency will benefit

both users and producers. So ultimately it will tend to be the cheap non-advanced end of the market that will suffer the most from such increases.

In this sense, although standardization can never be at the forefront of development of industrial products (it must almost by definition lag) it cannot actually afford to be wrong or out of date, for legal reasons if nothing else.

Social, technical and legal factors
Germany is proud on having the safest deep coal mining operations in the world. The health and safety regulations applying monitored very carefully the use of conveyor belting, which could be installed in underground coalmines. With the advent of the European Directives for the requirements for the health and safety of workers in surface and underground mineral-extracting industries, it became clear that if the reputation of the European producers and the health and safety of European workers was to continue, reliance on self application of the un-policed CE mark was not going to serve the needs of the industry. Consequently the necessity for the work of CEN/TC 188 was recognized.

1.2 Quantitative Indicators of the Business Environment

Market size
The market size in Europe amounts approximately €430 million for Light Conveyor Belting and approximately €300 million for Rubber Conveyor Belting.

2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

National standards have served industry well for many years. However, restructuring and rationalization of the manufacturing base, together with the more widespread use of global purchasing policies, have highlighted the major differences in approach taken by these standards. This has, inadvertently, resulted in significant technical and economic barriers to trade. The development of European standards is intended to reduce these barriers and provide economic advantages.

The desire to protect workers has been the driving force behind the development of new European legislation that includes the Machinery Directive and the ATEX Directive. The standards now being developed by TC 188 are intended to support such directives, and facilitate the demonstration of compliance with them.

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

4.1 Defined objectives of the CEN/TC

To establish a coherent library of standards that fulfils the needs of the user and provides the essential criteria for the technical requirements of contracts for the sale, transportation, storage and safe use and operation of conveyor belts.

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

To utilize as far as possible the technical expertise available in the working groups of CEN/TC188 and to respond to requests from the industry and major users. To continue the close working relationship with ISO/TC 41/SC 3 and to participate in and adopt the international standards produced through ISO/TC 41/SC 3, wherever possible through the operation of the Vienna Agreement.

4.3 Environmental aspects

Environmental aspects in specifications and test standards of CEN/TC 188 will be identified and addressed in the drafting or revision of the standards.
At present the focus is on fire simulation flammability testing. The WG 3 for "Safety requirements for conveyor belts" is working on more compact and therefore more environmental friendly test methods. The aim is to standardise test methods with far lower smoke emission than the old test methods, but with the same safety requirements as far as flame retardation of the final product conveyor belts are concerned.

A future topic to be adressed will be the reduction of energy consumption.

Important factors in the energy consumption of belt conveyors are:

- The vertical lift of the bulk material;
  This is the case in situations where the unloading point of the belt conveyor is on a higher level than the loading point. The energy needed for the lift is based on physical laws and cannot be affected or reduced.
- The indentation rolling resistance of the conveyor belt;
  Especially in the case of long quasi horizontal conveyors, the indentation rolling resistance is the main resistance and consequently significantly affects the energy consumption of belt conveyors. This resistance can be reduced by use of the right quality of the rubber compound for the bottom cover of a conveyor belt and to a lesser extent by the design of the idler stations, the design of the belt and the belt speed. EN 16974 “Conveyor belts - Indentation rolling resistance related to belt width - Requirements, testing“ describes some requirements and a test method, which could be adopted as a CEN standard in order achieve reduction of energy of belt conveyors in the future.

CEN/TC 188 will address environmental aspects in its standards, by adding specific environmental clauses, the environmental checklist as informative annex or by referring to other relevant publications. CEN Guide 4 “Guide for addressing environmental issues in product standards” will be used to determine the best way of addressing the environmental issues.

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

- **Contribution of experts:** Since the experts work in standardization on a voluntary level, the contribution from experts (e.g. from industry) is not always made available as expected.
- **Balance of the working groups:** It is recognised that not all the working groups have a perfect balance, e.g. manufacturers, users, and national safety bodies. New participants are welcomed.

For work items under the Vienna agreement:

- **Other factors**: There are other factors beyond direct control of the CEN/TC 188 or its working groups e.g. the turn around time for parallel processing in CEN and ISO can have an important impact on the progress. One of the measures to reduce this impact is a close co-operation between CEN/TC 188 and ISO/TC 41/SC3.
- **Lateness of comments from the CEN Consultant for Machinery:** The CEN Consultant is required to assess the draft and make comments/proposals during the Enquiry period and prior to Formal Vote. Due to pressure of work he sometimes misses the deadline and submits his report after the end-of-Enquiry and the Comments Resolution Meeting (CRM). In these cases the CRM is not forewarned of his comments and cannot deal with them in a timely manner.