BUSINESS PLAN
ISO/TC 17
Steel

EXECUTIVE SUMMARY

The amount of crude steel in the world hits a new record high of 903 million metric tons (mmt) and apparent consumption of finished steel reached 834 mmt in 2002 according to the report of IISI (International Iron and Steel Institute). The demand of steel products in the world is still growing. It can be said that the significance of international standardization in the steel field is increasing more and more.

ISO/TC17 covers standardization in the field of cast, wrought and cold-formed steel, including delivery conditions for steel tubes for pressure purposes. Excluded: steel tubes within the scope of ISO/TC5; line pipe, casing, tubing and drill pipe within the scope of ISO/TC67; methods of mechanical testing of metals within the scope of ISO/TC 164.

The current main subject in the development of ISO standards in ISO/TC17 is to improve the market relevancy of ISO standards developed or to be developed within ISO/TC17. To make ISO standards more usable in the market, international trade will be further promoted. The benefits of standardization, such as cost reduction and a speedier distribution of products can be expected.

Basic attitude of the ISO TC17 for the preparation of ISO standards is follows,
1) ISO/TC17 esteems the spirit of the WTO/TBT Agreement and devotes all efforts toward the preparation of ISO standards usable in the market of its member nations, either directly or indirectly through national or regional standards.
2) Each nation already has its own national or regional standards reflecting market needs based on individual climatic and geological environments, historical backgrounds of technologies, Laws and technological regulations. To make ISO standards acceptable to the markets of different nations, the coverage and contents of their national or regional standards should be respected in their preparation, especially in the early stage of their preparation.
3) All nations should aim at keeping the difference between their national standards and ISO standards, at least, at the level a) or b) of "Modified" specified in the ISO/IEC Guide 21:1999.
4) The P-members of ISO/TC17 or ISO/TC17/SCs should ensure to let all members joining early development work of an ISO standard within ISO/TC17 act along the guideline.
1 INTRODUCTION

1.1 ISO technical committees and business planning

The extension of formal business planning to ISO Technical Committees (ISO/TCs) is an important measure which forms part of a major review of business. The aim is to align the ISO work programme with expressed business environment needs and trends and to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of International Standards, and to ensure adequate resources for projects throughout their development.

1.2 International standardization and the role of ISO

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade.

Three bodies are responsible for the planning, development and adoption of International Standards: ISO (International Organization for Standardization) is responsible for all sectors excluding Electrotechnical, which is the responsibility of IEC (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of ITU (International Telecommunication Union).

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of some 140 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland.

The principal deliverable of ISO is the International Standard.

An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. These are safeguarded through its development in an ISO Technical Committee (ISO/TC); representative of all interested parties, supported by a public comment phase (the ISO Technical Enquiry). ISO and its Technical Committees are also able to offer the ISO Technical Specification (ISO/TS), the ISO Public Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) as solutions to market needs. These ISO products represent lower levels of consensus and have therefore not the same status as an International Standard.

ISO offers also the International Workshop Agreement (IWA) as a deliverable which aims to bridge the gap between the activities of consortia and the formal process of standardization represented by ISO and its national members. An important distinction is that the IWA is developed by ISO workshops and fora, comprising only participants with direct interest, and so it is not accorded the status of an International Standard.

2 BUSINESS ENVIRONMENT OF THE ISO/TC17

2.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this ISO/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:
The relationship of man to iron and steel has a history of around 4000 years but the remarkable popularization of steel began with Dr. H Bessemer invention of an epoch-making method of steel making about 150 years ago. Since then, significant progress in the quality and quantity of steel has been made through technological innovation and it has now become a basic material that is the most used for structures in the world and is thus required in our lives.

2.2 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 ISO/TC:

The amount of crude steel in the world hits a new record high of 903 million metric tons (mmt) and apparent consumption of finished steel reached 834 mmt in 2002 according to the report of IISI (International Iron and Steel Institute).

The amount of steel exports in the world is estimated 317 mmt in 2002 (including intra-regional trade), which makes up 38% of finished steel consumption.

The world steel consumption has steadily increased in the past several years. It can be said that the significance of international standardization in the steel field is increasing more and more.

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<th>Million metric tons</th>
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<td>Total</td>
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<td>CIS</td>
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<tr>
<td>Finished steel consumption</td>
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<td>Exports</td>
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* Steel Statistical Yearbook 2003: IISI

3 BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC17

The standards in the field of steel are roughly classified into 3 kinds of basic standards, a test method and inspection standards and product standards.

Basic standards such as terms and definitions are needed for smoothing communication and for avoiding misunderstanding between the parties concerned in transactions of steel products. A test method and Inspection standards are also indispensable in order to avoid unnecessary troubles. The differences between the test methods or inspection standards between shipment and delivery of goods sometimes cause troubles. International standardization of steel products would lead to a total cost saving by unifying the kind of products, increasing the production lots and reducing the stock of products.

The current main subject in the development of ISO standards in ISO/TC17 is to improve the market relevancy of ISO standards developed or to be developed within ISO/TC17, that is,

a) To make ISO standards more usable in the market, directly or indirectly through their being adopted by national or regional standards in accordance with the requirement of WTO/TBT agreement and the long-range strategy of the ISO council.
b) To promote the timely and speedy development of ISO standards

4 REPRESENTATION AND PARTICIPATION IN THE ISO/TC

4.1 Countries/ISO members bodies that are P and O members of the ISO committee

4.2 Analysis of the participation

ISO/TC17 is now composed of 30 P-members and 31 O-members. The members participating in the preparation of appropriate standards reflecting the market needs of individual nations are expected to have the following attitudes:

a) Chairman, Convenor and Secretary

• It is desirable for the Chairman, Convenor and Secretary to collect and sort the market needs of individual nations and analyse and evaluate their needs, appropriateness and feasibility as international standards based on the national standards or technical comments provided by the P-members in the proposal or preliminary stage.

• When there are multiple proposals which are technically appropriate, they should determine their acceptability and try to achieve a consensus among the members so that there is no inconsistency or ambiguity left in the standards prepared.

b) P-members

• The P-members should submit their proposals in writing, together with a clear description of market needs and technical backgrounds or grounds to ensure a good understanding of these proposals among all members.

• When considering the proposals, the P-members should bear in mind to respect and accept the needs of other nations or regions as well as their own ones.

• When the P-members have agreed to any decision, they should not hesitate to revise the relevant standards of their own nations in order to harmonise them internationally.

5 OBJECTIVES OF THE ISO/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

5.1 Defined objectives of the ISO/TC17

It would be essential and important thing for every subcommittees of ISO/TC17 to have their own frame-work of standardization, in other words, an overview image of standardization in respective fields, including an image of future work items, which would be useful for developing the standards schematically and for making prioritisation of the work programmes easy under the condition of limited resources.

5.2 Identified strategies to achieve the ISO/TC’s defined objectives

ISO standards should be used directly or indirectly through adopting them into national or regional standards in the market. For the time being, the latter case would currently be more appropriate in the field of steel.

An evaluation measure on adoption of ISO standards into national or regional standards has been addressed in ISO/IEC Guide 21 revised in 1999.

ISO/TC 17 considers that the adoption level of ISO standards to national or regional standards should be aimed at "Modified a)" or "Modified b)" defined in ISO/IEC Guide 21 and recognises that the important element enabling each country to achieve the object is basically the members’ attitude while participating in the development of the ISO standards.
From this point of view, ISO/TC 17 has prepared document 17 N 2704, "Guideline for the preparation of ISO standards usable in the market by ISO/TC 17". All members of ISO/TC 17 and ISO/TC 17/SCs taking part in the development of ISO standards are expected to be in accordance with this document. The main points mentioned in the guideline, document 17 N 2704 are as follows.

Main points mentioned in document 17 N 2704

a) Basic attitude of TC 17 for the preparation of ISO standards

1) ISO/TC 17 esteems the spirit of the WTO/TBT Agreement and devotes all efforts toward the preparation of ISO standards usable in the markets of its member nations, either directly or indirectly through national or regional standards.

2) Each nation already has its own national or regional standards reflecting market needs based on individual climatic and geological environments, historical backgrounds of technologies, laws and technological regulations. To make ISO standards acceptable to the markets of different nations, the coverage and contents of their national or regional standards should be respected during their preparation, especially in the early stage of their preparation.

3) All nations should aim at keeping the difference between their national standards and ISO standards, at least, at the level a) or b) of "Modified" specified in the ISO/IEC Guide 21-1999.

4) The P-members of ISO/TC 17 or ISO/TC 17/SCs should ensure that all members joining the early work for developing an ISO standard within ISO/TC 17 act in accordance with the guideline.

b) Target image of correspondence of the specified items and contents between a national or regional standard and an ISO Standard

The desired correspondence patterns of specified items and contents between a national or regional standard and an ISO standard are follows.

Pattern A: The items and contents specified in a national or regional standard are basically coincident with those of an ISO standard. (Identical Type).

The ISO standards such as basic standards as definitions of terms, standards for test and analysis methods, and product standards to be prepared based on standards internationally accepted should be aimed at this type. This type corresponds to "Identical" in the ISO/IEC Guide 21-1999.

Pattern B: While national and ISO standards do not coincide with each other in respect of specified items, the latter provides multiple options as regards specified contents. National standards can be matched themselves to ISO standards by making a suitable choice from them. (Cohabitation Type)

ISO standards can have multiple options reflecting market needs when it is difficult to restrict them to a single requirement as when they are prepared based on national or regional standards containing different specifications. Then, each nation or region can select suitable choices from the given options for their own national or regional standards.

It should be noted that the given options involve no technical inconsistencies and ISO standards should not simply list different national standards at random, like a shopping list.

This type corresponds to "Modified a)" in the ISO/IEC Guide 21-1999.

Pattern C: When an agreement cannot be attained as regards specified items or contents because of essential differences in individual market needs (including laws and
technological regulations), ISO standards including only minimum agreeable specified items and contents should be prepared. **(Common Denominator Type)**

This type of ISO standards does not fully reflect the needs of individual markets. National or regional standards should then adopt all provisions of this type of ISO standards and make necessary fill-up to meet each market needs. 

This type corresponds to "Modified b)" in the ISO/IEC **Guide 21 -1999**.

All ISO standards should be of Pattern A, Pattern B, Pattern C or a combination of Patterns B and C.

c) **Responsibility**

Which of Patterns A, B, C or a combination of B and C should be selected depends on the market, use, type of product, items and contents specified in the standard, and some other factors.

As such, the responsibility for applying the guideline shall be at the discretion of ISO/TC 17 or individual ISO/TC 17/SCs directly engaged in the preparation of standards.

Pattern A can only be accepted based upon the unanimous agreement of all P-members. If such agreement can not be reached, the Chairman of the sub-committees can select Pattern B, C or the combination of B and C, based upon consultation with the secretariat, convenor and agreements reached by the majority of P-members.

6 **FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC WORK PROGRAMME**

Risks or constraints on the completion of the proposed work program in each ISO/TC17/SC are described in the table of ANNEX 1.

7 **STRUCTURE, CURRENT PROJECTS AND PUBLICATIONS OF THE ISO/TC**

This section gives an overview of the ISO/TC's structure, scopes of the ISO/TCs and any existing subcommittees and information on existing and planned standardization projects, publication of the ISO/TC and its subcommittees.

7.1 **Structure of the ISO committee**

7.2 **Current projects of the ISO technical committee and its subcommittees**

7.3 **Publications of the ISO technical committee and its subcommittees**

Reference information

*Glossary of terms and abbreviations used in ISO/TC Business Plans*

*General information on the principles of ISO's technical work*
## ANNEX 1 Objectives, strategies and risk analysis for the development of ISO standards in ISO/TC17/SCs

<table>
<thead>
<tr>
<th>ISO/TC17</th>
<th>Objectives and strategies for the development of ISO standards</th>
<th>Risk analysis Constraints on the completion of the proposed work program</th>
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<tr>
<td>ISO/TC 17</td>
<td>The application of ISO deliverables should be only ISO/TS (Technical Specification), ISO/TR (Technical Report) and IS (ISO Standard) within ISO/TC 17. - Resolution No 8/2000 -</td>
<td>ISO standards of chemical analysis method are established after being assured about the analytical accuracy of the method by means of round robin tests. Accordingly, the results of the round robin test sometimes cause the delay of the progress of the standard development or lead the stop of its development.</td>
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<td>SC1</td>
<td>a) Objectives: Steels are characterized mainly by its alloying or residual elements in iron matrix. Determination of chemical composition is one of the key factors for trading steels and steel products. SC1 contributes to promotion of steel trading by standardizing chemical analysis methods, both referee and routine methods, to determine alloying or residual elements in steel and iron at a reasonable accuracy, standardizing sampling and sample preparation for chemical analysis and standardizing technical guidance or guidelines for testing by several test methods.</td>
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<td>b) Strategies 1) The method should be traceable to an accurate realization of the unit in which the property values are expressed (mass/mass) in accordance with the definition of ISO Guide 30. 2) A new method with higher productivity and/or easily applicable for automation should be developed. 3) From the viewpoint of traceability of routine analysis which is emphasized in ISO 9000 series and ISO 17025, physical methods of analysis should be developed as well as chemical methods. 4) For the elements already specified in standards or draft standards, the range of determination of content of which have to be expanded due to the demand of high-tech related areas, analytical methods should be developed. 5) Analytical methods for trace elements, which have harmful effect on characteristics of steel and iron or environment, should be developed. 6) A method specifying one of the major elements in steel and iron already prescribed in a standard but having no precision data may be developed. 7) A method already prescribed in a standard but revision is proposed may be developed.</td>
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<td>SC3</td>
<td>Objectives: SC3 establishes standards accepted and used in the world commercial exchange in the frame of structural steels (Only for flat products produced on reversal mills are considered.) For the time being the only document at WI stage concerns the revision of ISO 4952 on &quot;structural steels with improved atmospheric resistance&quot; b-1) In order to attain this objectives, SC3 has identified 3 new work items possible for the time being. That is, Taking account of the resources within ISO/TC17/SC3, at most, the introduction of one revision work each year could be accepted for the following three years. No other need for NWI has been identified for the time being</td>
<td>For new work items, results of new work enquiries shall demonstrate a sufficient support to include them in the programme.</td>
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| SC4     | SC 4 aims at International Standards which are usable on all markets in the world. The International Standards concern the technical delivery conditions, dimensions and tolerances as well as the surface quality. SC 4 aims at detailed and clear specifications, but provides options if the actual situation on various markets is too different. There are separate meetings for standards for stainless steels on one side and for the other steels on the other side under the scope of SC 4. For facilitating the participation, if possible, one meeting follows the other so that participants interested in both meetings save time and travel expenses. SC 4 is proud of the fact that it was able to prepare as first TC 17/SC two product standards under the Vienna Agreement: ISO 683-17 "Ball and roller bearing steels" was approved by 21 member bodies (with an abstention of Argentina). ISO 4957 "Tool steels" was approved by 22 countries (with an abstention of South Africa). In both cases there was no negative vote. This is certainly the result of good cooperation in SC 4 as well as of good preparation of the work. One can only hope that these standards will be implemented on national and regional level, as it is the case with members of ECISS. | a) Increasing bureaucracy (not only on international level).  
   b) Decreasing participation of active members (partly caused by "lean management" in the industry and in the standardization institutes).  
   c) Danger that - based on ISO/IEC Guide 21 - International Standards might provide too many varieties for practical application. |
| SC7     | SC7 has no needs of new work items for the time being.       | The major risk is the lack of active participation of P members, either in attending meetings or in answering to enquiries. Thus it is difficult to achieve a properly consensus and to find the specific expertise for the elaboration of standards. |
| SC10    | a) Objectives: ISO/TC 17/SC 10 has finished all its work for the time being (still awaiting the publication of ISO 9328-2 to -7). ISO/TC 17 has to start a review on ISO 9327-1 to -5 covering steel forgings and rolled or forged bars for pressure purposes.  
   b) Strategies: A questionnaire procedure has to be initiated to check if a revision is necessary, taking account of the market needs. | Nothing to be referred to for the time being. |
| SC11    | The objective of the committee is to continue to identify the products and practices which are necessary to allow steel castings to be purchased from ISO standards. In addition cast products which do not fall under the definition of steel will be considered for standardization where sufficient technical expertise is not available in the current TC or SC for the development of cast product standards. The subcommittee will address the revision of standards where the existing standards are found to be incomplete or difficult to implement. | The development of standards within SC11 places a large load on the active members limited. Attempts need to be made to encourage more P-members become active and large producers to become P-members. |
| ISO/TC17 | Objectives and strategies for the development of ISO standards | Risk analysis
Constraints on the completion of the proposed work program |
|---------|---------------------------------------------------------------|------------------------------------------------------------|
| SC12    | a) Objectives: SC12 creates hot rolled, cold rolled and coated sheet steel specifications that address the international needs of the steel production and consumption industries in a timely and efficient manner. SC12 is also responsible for revising and updating their standards to reflect changing requirements and technological improvements as well as mandated governmental and code initiatives.  
        b) Strategies: SC12 has developed and is utilizing several strategic programs. The programs consist of standardization of nomenclature, standardized tolerance tables, uniformity of ordering information and annual progress reports showing the status of SC12 standards. These programs provide uniformity and timely preparation as well as improved international acceptance of specifications through the reduction in the time of document development as well as a reduction in negative ballots due to major issues having been previously agreed upon.  
        Through its memberships, SC12 interacts with many national, regional and other standards writing organizations in an effort to achieve harmonious global standards. | It might become tough to maintain appropriate funding and knowledgeable people for ISO standardization activities. |
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<tr>
<td>SC16</td>
<td>a) Objectives: SC16 is now developing the standards on test methods for products in its field, product standards for mechanical splices, product standard for bars with end anchorages, product standards for zinc-coated reinforcing and prestressing steel and vocabulary standards. The objectives of each of them are as follows: 1) Test method standards will promote world trade by - making the specifications of the products clear and comparable - reducing the need for repeated testing of products sold in various markets 2) Product standard for mechanical splices will in addition - give confidence in the reliability of the splices - promote the application of splices in cases where they bring technical and economic advantages - consolidate and spread the existing knowledge on how the splices should reliably be used in concrete design 3) Product standard for bars with end anchorages will - give confidence in the reliability of the anchorages - promote the application of end anchorage's in cases where they bring technical and economic advantages - consolidate and spread the existing knowledge on how the anchorages should reliably be used in concrete design 4) Product standard for zinc-coated reinforcing and prestressing steel will -give confidence in the reliability of the coating -promote the application of zinc coatings in cases where they bring technical and economic advantages 5) Vocabulary standard will -constitute a common basis for national and regional standards - facilitate worldwide communication and trade b) Strategies: The standards are prepared in working groups open to all experts who may contribute.</td>
<td>There is a risk, or rather an encountered obstacle, that it is difficult to find somebody who will pay for the use of manpower required developing the standards. Somebody must pay for the work which will give benefit to everybody.</td>
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<td>SC17</td>
<td>a) Objectives: SC17 prepares ISO standards on qualities, dimensions and tolerances of steel wire rod and steel wire that are adoptable in every country’s national standard. b) Strategy: In developing ISO standards, the existing national standards to be submitted as comments from all over the world should be taken into account.</td>
<td>The major risk is to find how to harmonize the steel grades from various national standards. The risk also arises from the lacking of available experts due to the economical situation.</td>
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<tr>
<td>SC 19</td>
<td>a) Objectives: SC19 prepares ISO standards on qualities and delivery condition of steel tubes, seamless and welded, for pressure purposes which are adoptable in every country’s national standard. It also deals with the Non Destructive testing of such a products. SC now has a New Work Item to deal with, the Revision of ISO 11484 with the Scope enlarged to cover all steel products. The SC is also working for the periodical five years review of its own standards. b) Strategy: In developing ISO standards, the existing ISO rules are followed trying to reach the consensus as wide as possible.</td>
<td>a) Increasing bureaucracy (not only on international level). b) Decreasing participation of active members, due to the less availability of economical and human resources.</td>
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| Other SCs | Other SCs have no work items under development at this present time. Therefore, their main job is to carry out the periodical review of ISO standards in respective field.  
  a) Objectives: The important point in the periodical review of ISO standards is to make ISO standards more adoptable in each country standard or directly more usable in the world-wide market.  
  b) Strategies: All members of ISO/TC17 are requested to behave in accordance with the guideline prepared by ISO/TC17 (17N2704-1999, “Guideline for the preparation of ISO standards usable in the market by ISO/TC17”) in the development of ISO standards within ISO/TC17. | The key points for success are for respective members taking part in the development of ISO standards to respect mutual existing market and also submit the constructive proposals reflecting the actual market needs. |