European bodies update coil coating standards

CEN, the European Committee for Standardization, has Europe-wide membership, work procedures and role. This organization and its associated standards body, ECISS, the European Committee for Iron and Steel Standardization, are introduced, as is its growing cooperation with ISO, the International Organization for Standardization. Over the past months a three-part standard on coil coated steel products has been published. A number of standardized test methods for coil coated metals are also available.

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Against the background of recent activities, it seems appropriate to refer to the relevant international standardization institutions and committees, and to summarize European standards as national standards, coil coated products and test methods are also among the key objectives of the European Coil Coating Association (ECCA) of Brussels.

CEN - the European Committee for Standardization
CEN was founded in 1961 by the national standards bodies in the European Economic Community and European Free Trade Association (EFTA) countries as an independent legal organization with its Central Secretariat in Brussels. The principal issue is the European standard (EN) that exists in three official languages (English, French and German). CEN national members are bound to comply with the CEN Internal Regulations. These stipulate the conditions for giving a standard the status of a national standard without any alteration or by endorsement within six months and that any pre-existing national standard in conflict be withdrawn. German versions are prefixed as in DIN EN, corresponding to BS EN and NF EN. A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre (CMC) has the same status as the three official versions.

New work items start with a working document prepared by a Working Group. The working document becomes a draft European Standard (prEN) and, following a customary administrative route via the CEN Management Centre, in the end a European Standard (EN). CEN members are granted a six-month enquiry of the drafts and a two-month deadline of cognisance of the final texts but without any technical changes to them. This procedure is completed by the ratification by CEN.

CEN membership and relations
National Members (Figure 1) are the national standards bodies (NSB) of the enlarged European Union, EFTA and some Central and Eastern European (CEE) countries. They (1) make up the delegations to the technical committees by finding expertise in each country; (2) vote for and implement European standards as national standards; (3) provide the secretariats of the committees; and (4) finance more than 50 % of the work. In turn they are largely financed by industry, sales of standards and government grants. CEN presently comprises in all 28 NSB (listed with their acronyms) compared with only 18 in 1996. There are 25 from the EU: Austria (ON), Belgium (IBN/BIN), Czech Republic (C5N), Cyprus (CYS), Denmark (DS), Estonia (EVS), Finland (SFS), France (AFNOR), Germany (DIN), Greece (ELOT), Hungary (MSZT), Ireland (NSAI), Italy (UNI), Latvia (LVS), Lithuania (LST), Luxembourg (SEE), Malta (MSA), The Netherlands (NEN), Poland (PKiN), Portugal (IPQ), Slovakia (SUTN), Slovenia (SIST), Spain (AENOR), Sweden (SIS), and the United Kingdom (BSI). In addition, Iceland (IST), Norway (NSF) and Switzerland (SNV) are members from EFTA.

Counsells, affiliates and partners
Counsellers are the European Commission and the EFTA Secretariat. Affiliates are other national standards bodies of Central and Eastern Europe, which can in principle become members of the Union or EFTA, and which therefore can become full National Members of CEN by meeting certain criteria.

Present affiliates are Albania (DPS), Bulgaria (SASM), Croatia (DZNM), Romania (ASRO), the former Yugoslavia, Republic of Macedonia (FYROM), and Turkey (TSE). Partner Standardization Bodies (corresponding organizations) are Egypt, (EOS), Serbia and Montenegro (S2S), South Africa (SABS), and Ukraine (DSSU).

ECISS - the European Committee for Iron and Steel Standardization
Since 1986 ECISS has taken over the standardization activities of COCOR, the Coordinating Committee on the nomenclature of iron and steel products, a committee originally set up under the ECSC (European Coal and Steel Community). ECISS, a CEN Associated Standards Body (ASB), is administered by, but independent of, CEN. Internal rules are in accordance with those of CEN. ECISS develops draft standards for the definition, classification, testing, chemical analysis and technical delivery requirements for the products of the steel industry which are then submitted to CEN for further launching. The origins of ECISS and its precursor go back to the early 1950s and the foundation of ECSC as the very first of the European communities. The process of European integration began with coal and steel (Treaty of Paris, ratified in 1952). The Euronorms issued since 1953 had merely an optional status.

ECISS and CEN functions
Functions of the two standards bodies are performed by Technical Committees (TC), which are responsible for the programming and planning, monitoring and execution of the technical work, and Subcommittees (SC), which are responsible for a defined portion of the scope of the relevant TC.

Working Groups (WG) are appointed by a TC or SC to deal with a special and limited area of work. They are composed of individual members (experts) from CEN/ECISS members and organizations.

All the CEN national members are entitled to nominate delegates to ensure a balance of all interested parties. Strategies identified as achieving CEN- and ECISS-defined objectives may include, among others:
- Use of available national, regional or international source documents (such as ISO standards) on which to base European Standards;
- Where appropriate, cooperation and liaison with other CEN committees and international committees;
- Information that directly demonstrates the possible use and acceptance of the standards by the affected business community.
The work programme
The ECISS work programme is dealt with by 21 Technical Committees. Among others, these include:
- TC 13: Flat products for cold working - Qualities, dimensions, tolerances and specific tests (uncoated hot or cold-rolled steels and cold-rolled steel sections); chairman, J. Dawance; secretariat held by D. Jacobs, IBN/BIN;
- TC 27: Surface coated flat products - Qualities, dimensions, tolerances and specific tests; chairman, P. Fünders; secretariat held by H.-F. Hach, FES im DIN; and
- TC 27/SC 1: Continuously organic coated (coated) steel flat products; chairman, B. Meuthen.

European standardization and the role of CEN
CEN is contributing to the objectives of the European Economic Area with technical standards which promote free trade, the safety of workers and consumers, interoperability of systems and technologies, environmental protection, exploitation of research and development programmes, and public procurement. The foremost aim is to facilitate the exchange of goods and services through the elimination of technical barriers to global trade, thus ensuring the interoperability and interconvertibility of safe and high quality products and systems.

The use of standards by industry and the social and economic partners is always voluntary; however, European standards are sometimes related to European legislation (Directives), and conformity to such standards may constitute a presumption of conformity to the legal requirements of the Directives which must be met by manufacturers before certain products can be traded legally within the Single Market. A European standard embodies the essential principles of global openness and transparency, consensus, technical coherence and national commitment.

ISO - International Organization for Standardization
One cannot report on standardization without mentioning ISO, the worldwide federation of national standards bodies, constituted as far back as 1947, with its Central Secretariat in Geneva, Switzerland. Its current membership comprises national standards institutes from 148 countries, working in partnership with international organizations, governments and industry, business and consumer representatives. Official languages are English and French. Final Draft International Standards (FDIS) become Standards (ISO). Implementation is, however, optional only.

A growing cooperation
ISO and CEN work closely together according to their Vienna Agreement (1991): Technical cooperation under the VA, where the work is done by CEN following a formal notification of interest received by CEN from ISO (VA CEN lead) or vice versa (VA ISO lead). Parallel synchronized procedures are applied in either organization for the approval processes.

The growing cooperation between CEN and ISO may be characterized by CEN/TC 139 "Paint and varnishes" (secretariat held by DIN) established in 1988 and its counterpart ISO/TC 35 "Paint and varnishes" established in 1947. Over the past years, an increasing number of ISO standards, particularly on terminology (SC 1) and test methods (SC 9) have already been transposed into the CEN network (as EN ISO). (EN) ISO standards are referred to, whenever applicable.

However, the specific work on test methods for coil coated metals has since 1995 been the responsibility of CEN/TC 139/WG 9 "Coil coated metals - Test methods" (convenors, F. Ferron / H. Hughes) in cooperation with and supported by ECCA. 25 Parts have already been published (Table 1).

An update on coil coated steel standardization

ECISS/TC 27/SC 1 began work in 1992 tasked with updating the Euronorm EU 169-85 for continuously organic coated steel flat products. This Euronorm was prepared by a Working Group established in the late 70s and was the first standard of its kind. It is common practice for existing standards to be reviewed about every five years to determine whether any need exists for some major editorial or technical amendments. The transposition into EN (Part 1 since 1996) did not pose any problems.

Work was then started on compiling supplements Parts 2 and 3, governing building exterior and interior applications, since these are the prime sales markets. WG 2 and WG 3 were founded for this purpose, with B. Creton and J. Ménigault, BNS (Bureau de Normalisation de la Sidérurgie), Paris, since renamed BN Acier, acting as convenors.

WG 2 (Exterior applications) applied considerable efforts between 1992 and 2003 in developing, first of all, a pre-standard (ENV 10169-2:1999). This was only recently transposed into prEN 10169-2:2004. The final standard is due to be published in 2005. In the period 1997 to 1999, WG 3 (Interior applications) succeeded in drafting the new EN 10169-3:2003. In their source English versions, the three standards together have some 60 pages.

What's in the standards
The usual contents are: Foreword, Scope, Normative references, Terms and definitions, Designation, Information to be supplied by the purchaser, Substrates and organic coatings, Requirements, Inspection and testing, Marking, Packing and dispatch, Storage, Disputes, Annex, and Bibliography.

Regarding "Scope" (Part 1): The standard is not applicable to organic coated tin mill products, electrical steels and steel strapping. Alongside the updated standards for the steel substrates, all three parts now include many of the new parts of the EN 13523 series, Coil coated metals - Test methods (Table 1). "Terms and definitions" list altogether 45 definitions for the coil coating process, coating systems, building applications etc.

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Reference

Table 1: EN Standards on Coil Coated Metals - Test Methods
EN 13523-0:2001 Coil coated metals - Test methods
Part 0: General introduction and list of test methods
EN 13523-1:2001 Part 1: Coating thickness
EN 13523-2:2001
Part 2: Specular gloss  
EN 13523-3:2001  
Part 3: Colour difference - Instrumental comparison  
EN 13523-4:2001  
Part 4: Pencil hardness  
EN 13523-5:2001  
Part 5: Resistance to rapid deformation (impact test)  
EN 13523-6:2002  
Part 6: Adhesion after indentation (cupping test)  
EN 13523-7:2001  
Part 7: Resistance to cracking on bending (T-bend test)  
EN 13523-8:2002  
Part 8: Resistance to salt spray (fog)  
EN 13523-9:2001  
Part 9: Resistance to water immersion  
EN 13523-10:2001  
Part 10: Resistance to fluorescent UV light and water condensation  
prEN 13523-11:2003  
Part 11: Resistance to solvents (rubbing test)  
prEN 13523-12:2003  
Part 12: Resistance to scratching  
EN 13523-13:2001  
Part 13: Resistance to accelerated ageing by the use of heat  
EN 13523-14:2001  
Part 14: Chalking (Helmens method)  
EN 13523-15:2002  
Part 15: Metamerism  
prEN 13523-16:2003  
Part 16: Resistance to abrasion  
prEN 13523-17:2003  
Part 17: Determination of adhesion of strippable films  
EN 13523-18:2002  
Part 18: Resistance to staining  
prEN 13523-19:2003  
Part 19: Panel design and method for atmospheric exposure testing  
prEN 13523-20:2003  
Part 20: Foam adhesion  
EN 13523-21:2003  
Part 21: Evaluation of outdoor exposed panels  
EN 13523-22:2003  
Part 22: Colour difference - Visual comparison  
EN 13523-23:2002  
Part 23: Colour stability in humid atmospheres containing sulphur dioxide  
prEN 13523-24:2003  
Part 24: Resistance to blocking and pressure marking  
In preparation: Part 25: Resistance to humidity  Part 26: Resistance to condensation

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Figure 1: Map of Europe with CEN membership countries (EU=brown, EFTA=green, affiliates=yellow, partners=red, non-members=blue)