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Transport

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ACTIVITIES OF OTHER ORGANIZATIONS AND COUNTRIES  
OF INTEREST TO THE WORKING PARTY

Submitted by the International Organization for Standardization (ISO)

Update from ISO on current work

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## 1 Introduction

As it concerns the transport area, it is important to mention the recent ISO work concerning:

- Terminology
- Identification of containers
- 45 foot container
- Container door end security
- Mechanical seals for containers
- Electronic seals for containers
- Supply chain application of RFID
- Security management for the supply chain
- Current list of management systems standards (MSSs)

## 2 Terminology

The technical committee ISO/TC51 "*Pallets for unit load method of materials handling*" is revising its standard ISO 445:1996. The following draft international standard has been submitted to ISO member body for enquiry. The voting ended on 2006-01-04. In view of the comments received, a second ISO/DIS is to be prepared :

- ISO/DIS 445 Pallets for materials handling -- Vocabulary

The technical committee ISO/TC104 "*Freight containers*" is revising its standard ISO 830:1999. The following draft international standard will be submitted shortly for ISO member body enquiry:

- ISO/DIS 830 Freight containers --Vocabulary

The technical committee ISO/TC122 "*Packaging*" has prepared a new draft international standard ISO/DIS21067 "*Packaging -- Vocabulary*". The results of the ISO member body has been reviewed in October 2006. The final has been submitted to a two-month formal vote on 2007-03-29. It has been approved and will be published very soon. The reference will be:

- ISO 21067:2007 "*Packaging -- Vocabulary*"

## 3 Identification of containers

The identification of containers is currently made on the basis of the following ISO standards. The registration is made by the Bureau International des Conteneurs (BIC)

- ISO 6346:1995 "*Freight containers -- Coding identification and marking*"

Concerning the automatic identification, the ISO standard 10374: 1991 is

- ISO 10374:1991 "*Freight containers -- RF automatic identification*"

A new standard on RF automatic identification of freight container is under preparation. At the last meeting of Sub-committee ISO/TC104/SC4 which was held in Busan (Republic of Korea) on 9 May 2007, it was felt that considerable work needs to be done to achieve a consensual ISO standard based on new technology. To exclude any misunderstanding and in order to clearly differentiate the future container tag ("license plate tag") from the tag specified in ISO 10374:1991, it was agreed to allot a new ISO standard number. That draft is now registered as:

- AWI 10891 "Freight containers -- RF automatic identification"

#### 4 Dimensions of containers: 45 foot container

The technical committee ISO/TC104 "*Freight containers*" has actively developed amendments to the TC104 series of standards that will recognize and standardize the "45 foot" widely used inter-modal freight container size. The design being included in the standards is 45 feet long, 8 feet wide and 9 and a half feet high with end frames and corner fittings at both the extreme ends of the container and at the 40 foot points (2.5 feet in from each end). The container will be capable of stacking on top of 40 foot containers or 45 foot containers and of having either 40 or 45 foot containers stacked on top of it. Its other structural capabilities will be similar to those of all ISO freight containers.

Changes to the various standards have been made to incorporate this new container size in pertinent ISO standards

The following amendments are now published:

- ISO 668:1995/Amd 1:2005 "Series 1 freight containers -- Classification, dimensions and rating -- Amendment 1"
- ISO 1496-1:1990/Amd 4:2006 "Series 1 freight containers -- Specification and testing -- Part 1: General cargo containers for general purposes -- Amendment 4"

The draft Amendment 4 to ISO 3874 on "handling and securing" has been submitted to a member body enquiry. It has been approved and should now be published shortly:

- ISO 3874:1997/Amd 4 "handling and securing"

#### 5 Container door end security

The technical committee ISO/TC104 "*Freight containers*" has examined the design of the door end of the container from the aspect of improving security and making undetected entry into the container more difficult. The current activity in this regard is focused on current industry provisions for sealing freight containers and the apparent ease in which knowledgeable individuals can defeat these provisions. The ISO/TC104 has therefore considered including sealing provisions into the standards and in particular, moving location of these provisions to a more secure location such as the locking rod cam and keeper.

The following international standard has been issued:

- ISO 1496-1:1990/DAmd 5: 2006 "Series 1 freight containers--Specification and testing-- Part 1 General cargo containers for general purposes --Amendment 5 Door end security".

Moreover, some additional considerations relating to the door end security have been adopted and will be incorporated in ISO/TR 15070: 1996 on structural test criteria for freight containers. They will be issued shortly as a second Amendment:

- ISO/TR 15070:1996/Amendment 2 "Series 1 freight containers --Rationale for structural test criteria -- Amendment 2 Design consideration"

## 6 Mechanical seals for containers

First step of the ISO/TC104 work was completed in 2004 and PAS (Publicly Available Specification) 17712 on mechanical seals for freight containers was published. This PAS set the standard for mechanical seals, including high security seals, for use in transportation.

Further work has been undertaken to publish a second edition of this ISO/PAS and to convert it to a full ISO standard. One important addition that has been made as part of this new edition and conversion process is a new annex that details quality control procedures for seal manufacturers to ensure seals produced meet the standard and that they are properly controlled during manufacture and distribution to prevent theft, copying or other fraudulent use of the seals or seal numbers.

The second edition of ISO/PAS 17712 has been published in July 2006.

An ISO/DIS 17712 (identical to the second edition of the ISO/PAS) was submitted for ISO member body enquiry in December 2006. That last enquiry was aimed at transforming the ISO/PAS 17712 into a full ISO standard (ISO 17712). the enquiry terminated on 2007-05-03. Comments received were reviewed by ISO/TC104/WG7 before last meeting of ISO/TC104 held in Busan on 10 May 2007. It was decided to make a few technical improvements as proposed by member bodies and to re-circulate the draft for a two-months enquiry.

## 7 Electronic seals for containers

The following standards are now published

- ISO18185-1:2007 "Freight containers – Electronic seals – Part 1:Radio-frequency communication protocol"
- ISO18185-2:2007 "Freight containers -- Electronic seals -- Part 2: Application requirements"
- ISO 18185-3:2006 "Freight containers -- Electronic seals -- Part 3: Environmental characteristics"
- ISO 18185-4: "Freight containers -- Electronic seals -- Part 4: Data protection"
- ISO 18185-5: "Freight containers -- Electronic seals -- Part 5: Physical layer"

One important issue that has been agreed amongst the experts and included in their work is that all electronic seals will meet the requirements laid down in PAS 17712 for mechanical seals.

#### 8 Supply chain application of Radio Frequency Identification (RFIDs)

Recognizing their overlying areas of responsibility, the technical committees ISO/TC 104 "Freight containers" and ISO/TC122 "Packaging" have established a joint working group to look specifically at the application of radio frequency identification technology (RFID) to transportation issues. Specific work is underway in the Joint Working Group (JWG) to develop a series of related standards using RFID in the areas of:

- ISO/FDIS 17363 - Freight containers (being submitted as ISO/FDIS for the ISO member body formal vote)
- ISO/FDIS 17364 - Returnable transport Items (to be submitted as ISO/FDIS for the ISO member body formal vote)
- ISO/FDIS 17365 - Transport units (to be submitted as ISO/FDIS for the ISO member body formal vote)
- ISO/DIS 17366 - Product packaging (submitted as second ISO/DIS for an ISO member body enquiry terminating on 2007-02-08)
- ISO/DIS 17367 - Product tagging (submitted as second ISO/DIS for an ISO member body enquiry terminating on 2007-02-08)

Results of voting on the above drafts were reviewed on occasion of last meeting of ISO/TC122 which took place in Atlanta on 27 October 2006. It has been resolved to undertake the final publication of the ISO standards 17363, 17364 and 17365. Accordingly, these three drafts will be submitted for a two-month formal FDIS vote in coming months. As it concerns the two other drafts, they are being technically improved and will soon be re-submitted to ISO member bodies as second ISO/DIS 17366 and ISO/DIS 17367.

#### 9 Security management for the supply chain

At the end of 2001, the technical committee ISO/TC8 "*Ships and marine technology*" undertook the preparation of a management system for ensuring better security in the supply chain. At present the following international standards are available:

- ISO/PAS 28000:2005 "Specification for security management systems for the supply chain"
- ISO/PAS 28001:2006 "Security management systems for the supply chain—Best practices for implementing supply chain security—Assessments and plans"
- ISO/PAS 28003:2006 "Security management for the supply chain—Requirement for audit and certification of supply chain management security systems"
- ISO/PAS 28004:2006 "security management for the supply chain—Guidelines for the implementation of ISO/PAS 28000"
- ISO/PAS 20858:2004 "Ship and marine technology—Maritime port facility security assessments and security plan development"

Draft international standards ISO/DIS 28000, 28001, 28003 and 28004 have been submitted to ISO member bodies for enquiry so as to enable a transformation of the relevant ISO/PASs into full ISO Standards. The draft international standards ISO/DIS 28000, ISO/DIS 28001,

ISO/DIS28003 and ISO/DIS 28004 have been approved and it is expected that they will be published in the coming months. ISO/DIS 20858 is under ISO Member Body enquiry until 2007-09-27.

In addition, the following work items are under preparation to become ISO 28005:

- Electronic port clearance (Further developing ISO/PAS 16917:2002 “Ships and marine technology—Data transfer standard for maritime, intermodal transportation and security”)
- Computer-to-computer data transmission

The above standardization work is dealt with in close collaboration with the International Maritime organization (IMO), the International Labour Office (ILO) and the World Customs Organization (WCO).

## 10 Management systems standards

The list of current management systems covers the following areas:

- Quality (ISO 9000 series) (work from ISO/TC176 "Quality management and quality assurance" )
- Environment (ISO 14000 series) (work from ISO/TC207 "Environmental management")
- Information technology service (ISO/IEC 20000) (work from ISO-IEC/JTC1 "Information technology")
- Food safety (ISO 22000 series) (work from ISO/TC34 "Food products")
- Information security management (ISO 27000 series) (work from ISO-IEC/JTC1 "Information technology")
- Security for the supply chain (ISO 28000 series) (work from ISO/TC8 " Ships and marine structures")

Additional Management Systems Standards are envisaged for the future, eg on health and occupational safety, social responsibility (ISO/WD 26000), on dismantling of ships (ISO/WI 30000), etc... Other MSSs are envisaged in certain areas.

## 11 Conclusions

Members of the ECE/TRANS/WP30 Working Party on Customs Questions affecting Transport are invited to take note of the above update and if so wish to submit comments. It is moreover recommended that committee members will contact the ISO member body in their country for expressing views on drafts on interest to them

Particular attention is drawn on the work related to the electronic identification of freight containers (ISO10374:1991 and AWI 10891), on mechanical and electronic seals (second edition of ISO/PAS 17712, forthcoming second MB enquiry on ISO/DIS 17712), to the recent publication of electronic seals standards (ISO 18185-1 to 5), to the progress made on RFIDs application standards and on progress for the issue of ISO 28000 series of standards which is now under way.

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