

Logistics-related Standards in Japan

Present Status and Issues

- 1 General Trends of Standardization
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1 General Trends on Standardization

From Specifications on Size, Shape and Name
To Electronic Identifications

- *Change of the role of ISO based on WTO/TBT (1995)
- *Setting priority on International standards
- *Harmonization between ISO and ISO

From Products ISO
To Management ISO

- Quality
- Environment
- Labor
- Information
- Safety and Security

2 Present Status and Issues in Japan

2.1 Logistics-related standards

2.1.1 JIS

177 standards in 2001.3.31

Equipments TC96,TC101,TC110,TC111,TC51

Container TC104

Packages TC52,TC122

Automatic Identification and Data Capture Technology (AIDC)

ISO/IEC/JTC1/SC31

TC104/TC122/JWG

TICS : TC204/WG7.2 and TC204/WG4

2.1.2 Related Areas

UN/EDIFACT

Transport: Automobile, Rail, Air and Ship

WCO, UPU, IATA

Standardization related associations in Japan

TC96 Japan Crane Association

TC101&TC111

 The Japan Society of Industrial Machinery Manufacturers

TC110 Japan Industrial Vehicles Association

 Japan Material Handling Association

TC51 Japan Pallet Association

TC104 The Japanese Ship-owner's Association

TC52 Japan Canner Association

TC122 Japan Packaging Institute

ISO/IEC/JTC1/SC31

 Japan Electronics and Information Technology Industries Association

TC104/TC122/JWG

 Japan Automatic Identification Systems Association

TC204/WG7.2 Japanese Standards Association

TC204/WG4 Universal Traffic Management Society of Japan

2.2 Harmonization between ISO and JIS

	ISO	JIS				
		Total	Equivalent	Amendment	not-Equivalent	None
Freight Container	44	19	0	0	11	8
Pallets	32	15	0	2	0	13
Corrugated carton	8	9	0	2	0	7
Packaging	4	0	0	0	0	0
Packaged cargo	19	9	1	8	0	0
Air Cargo	21	0	0	0	0	0
Unit load	8	4	1	1	0	2
Rack	2	2	0	0	0	2
Fork lift	9	8	0	7	0	1
Industrial rack	0	2	0	0	0	2
Wooden box	0	2	0	0	0	2
Automatic Storage	0	3	0	0	0	3
Automatic guided vehicle	0	3	0	0	0	3
Material handling	2	0	0	0	0	0
Barcode symbol for uniform commodity code	0	1	0	0	0	1
Barcode symbol for dispatch unit code	0	1	0	0	0	1

Note1: There are duplications between each groups

Note2: Number of standards is just basic standard

Note3: ISO6780:2003 includes amendments on T11 pallet size

Freight Container

ISO Container



まず東京(夕)へ海上コンテナを届ける



貨車積載した海上コンテナ

Domestic standard JR Freight Container



ラックに福岡向け鉄道コンテナを入れ宇都宮(夕)へ

Source: Hitachi

Japan Rail Freight

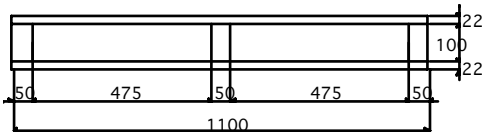
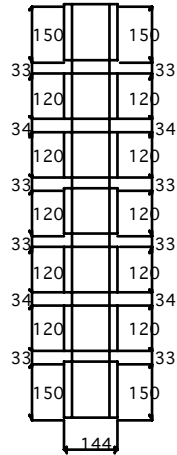
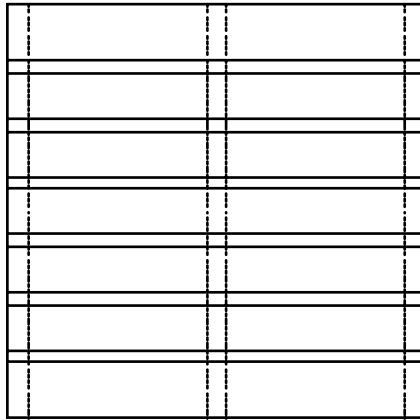
12ft 3642*2270mm(3300*2200)

15ft 4552*2318(4400*2200)

<http://www.jrfreight.co.jp/eigyau/contena/index.html>

Pallet

JIS Z 0601 T11R2



<Domestic>

1100mm*1100 mm

Food

900mm*1100mm

Beer, Liquor

1400mm*1100mm

Rice, Chemical

<Foreign>

Australia

1165*1165mm

Canada, Mexico, South America

1200*1000 mm (ECR Singapore)

Europe

1200*800 mm

United State

48*40inch (1219*1016 mm)

<http://www.jpr.co.jp/pallet/24.htm>

2.3 Automatic Identification and Data Capture technologies

2.3.1 Basic standards are specified

(1) Bar Code Media

1) One dimension symbol

ISO/IEC 15420:2000

EAN/UPC (JIS X0501 JAN)

ISO/IEC 16390:1999

Interleaved 2 of 5 (ITF)(JIS X 0502)

ISO/IEC 16388:1999







Code 39 (JIS X 0503)

ISO/IEC 15417:2000

Code 128 (JIS X 0504)

JIS X 0503 NW7

UCC/EAN RSS14

JAN/EAN	Interleaved 2of5 (ITF)	Codabar (NW7)	Code39	Code128	RSS14
 4912345678904	 14912345678901	 A12345678A	 *123ABC*	 1234567	 0114912345678901

<http://www.jaisa.or.jp/about/pdfs/20040219bcd.pdf>

2) Two dimensions symbol

ISO/IEC 15438:2001 PDF417

ISO/IEC 16022:2000

Matrix

ISO/IEC 18004:2000

QR Code (JIS X0510)

ISO/IEC 16023:2000

Maxi Code

ISS 1997 AztecCode

UCC/EAN ITS 1999

PDF417	DataMatrix	QRCode	MaxiCode	AztecCode	UCC/EAN コンボジット
					 <small>(01) 14512345678903</small>

<http://www.jaisa.or.jp/about/pdfs/20040219bcd.pdf>

(2) Radio Frequency Identification

Air-interface

ISO/IEC 18000-2:2004	<135 kHz
ISO/IEC 18000-3:2004	13.56 MHz
ISO/IEC 18000-4:2004	2.45 GHz
ISO/IEC 18000-6:2004	860 MHz to 960 MHz
ISO/IEC 18000-7:2004	433 MHz

2.3.2 From Media to code, message and middleware

(1) ISO/TC104/TC122/JWG

Supply Chain Applications of RFID

5 Layers

ISO 17363, Freight Containers

ISO 17364, Returnable Transport items

ISO 17365, Transport units

ISO 17366, Product packaging

ISO 17367, Product tagging



(2) Related standards

Label and tagging

ISO 15394:2000 Package: Shipping, Transport and Receiving Label

ISO/IEC 62090 Product packaging (electronic goods)

ISO/TC122, FCD 22742 Product Packaging

ISO TS 21849 Part Management

Freight Container

ISO 10374 Automatic Equipment Identification : Permanent RFID

ISO 17363 Supply chain RFID (under discussion)

ISO 18185 e-Seal (under discussion)

ISO 17262、 ISO 17263、 Inter-modal: Sea and road

Real Time Locating Systems

ISO/IEC/JTC1/SC31/WG5 (under discussion)

2.4 Electronic Data Interchange

UN/EDIFACT

EANCOM subset message of UN/EDIFACT
for distribution industry

Business Transaction Message

*Quotation messages

*Purchase Order

*Transport and Logistics messages

*Invoice and Remittance Advice messages

Domestic standard message

JEDICOS

JTRN (for Transport)

3 Issues and proposals

3.1 Common issues on standardization

Participation of user associations on standard making process
Active participation in making process of international standard
Harmonization with quick innovation and consortium standards
Development of system architecture on multiple standards
Development of business model on various use cases

3.2 Asian issues

Harmonization with Japanese standards
Connectivity with legacy system in advanced ICT countries
Priority on Internet-based infrastructure
Development of ICT infrastructure

3.3 Issues on logistics

International harmonization for unit-load system
International harmonization of code and middleware for AIDC