

Guidance on ISO23412 for certification

February 2024

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1. Purpose of guidance

The purpose of this guidance is to provide an easy-to-understand explanation of the major requirements of ISO 23412, the certification process, and how to appeal certified ISO23412 to stakeholders when logistics service providers provide refrigerated parcel delivery services. It also explains the background of the standard's origins and the important essence of the standard for operations.

The guidance is a product under the study on compiling a guidelines for certification of ISO23412 by logistics service providers – standardization of cold chain logistics in 2023 commissioned by Ministry of Economy, Trade and Industry of Japan.



2. Explanation of major requirements

ISO 23412 for refrigerated parcel delivery services

With the proposal from Japan, ISO/PC(Project Committee)315 was officially established in January 2018 for developing ISO 23412 and it was published on 28th May 2020.

Document title	ISO 23412:2020 Indirect, temperature-controlled refrigerated delivery services — Land transport of parcels with intermediate transfer
Aim	Support consumer safety through a total control of the cold chain while the refrigerated parcel is in the possession of the refrigerated delivery service
Target	Focus on the service provided by, and the processes for, temperature control within the refrigerated delivery service

<https://www.iso.org/standard/75468.html>



↑ Check here
for the introduction movie
(YouTube)

2. Explanation of major requirements

Effects of ISO 23412 certification

Companies that have acquired ISO 23412 certifications identify the following four effects of certification.

1. Improving and ensuring service quality

- Clarify points that need to be checked, which can be confirmed and improved during regular internal inspections.
- Clarify points to be improved by third-party audit, and enable the provision of better services.
- Create a culture of continuous improvement and ensure effective and up-to-date conditions over the long term.
- Prevent the growth of microorganisms, maintains freshness, and ensures the safety and quality of customers' products

2. Reducing risks

- Reduce risks such as spoilage, waste, food safety issues, loss of customer trust and confidence, and enhance overall service levels.

3. Improved reliability

- Provide easy-to-understand proof of quality for shippers and customers

4. Differentiating factors from competitors

- It is a differentiating factor from other companies in terms of quality (The certification body mentioned that it is difficult for other companies to acquire ISO 23412 certification in terms of quality. Other companies use coolants in refrigerated containers, have no rules for transshipment time, and do not have sufficient temperature control).

【Specific region (e.g. Hong Kong)】

- Important requirements for participating in tenders and contracts including cold chain services (ISO 22000 and HACCP certifications are prerequisites, ISO 23412 is an additional key factor)
- Attract customers (high-end hotels, chain restaurants, supermarkets, etc.) who prioritize food safety and service quality.

2. Explanation of major requirements

ISO 23412 includes requirements ranging from service launch to monitoring and improvement of the service. The major requirements are as the below.

Service definitions

- | | | |
|---|--|---------------------------------|
| 1 Subject of control temperature | 2 Service transport temperature | 3 Pre-cooling of parcels |
|---|--|---------------------------------|

Requirements for the refrigerated delivery

Design

- | |
|--|
| 4 Pre-cooling of equipment |
| 5 Emergency measures |
| 6 Temperature control during transferring |

Execution

- | |
|---|
| 7 Confirmation of pre-cooling/ item upon reception |
| 8 Labeling |
| 9 Refrigeration upon non-delivery |

Review

- | |
|---|
| 10 Monitoring and recording of transport temperature |
| 11 Effectiveness of temperature control in all processes |

Other Requirements for maintaining transportation quality

Design

- | |
|---|
| 12 Transportation network |
| 13 Security measures for operation sites |
| 14 State of transportation network |

Execution

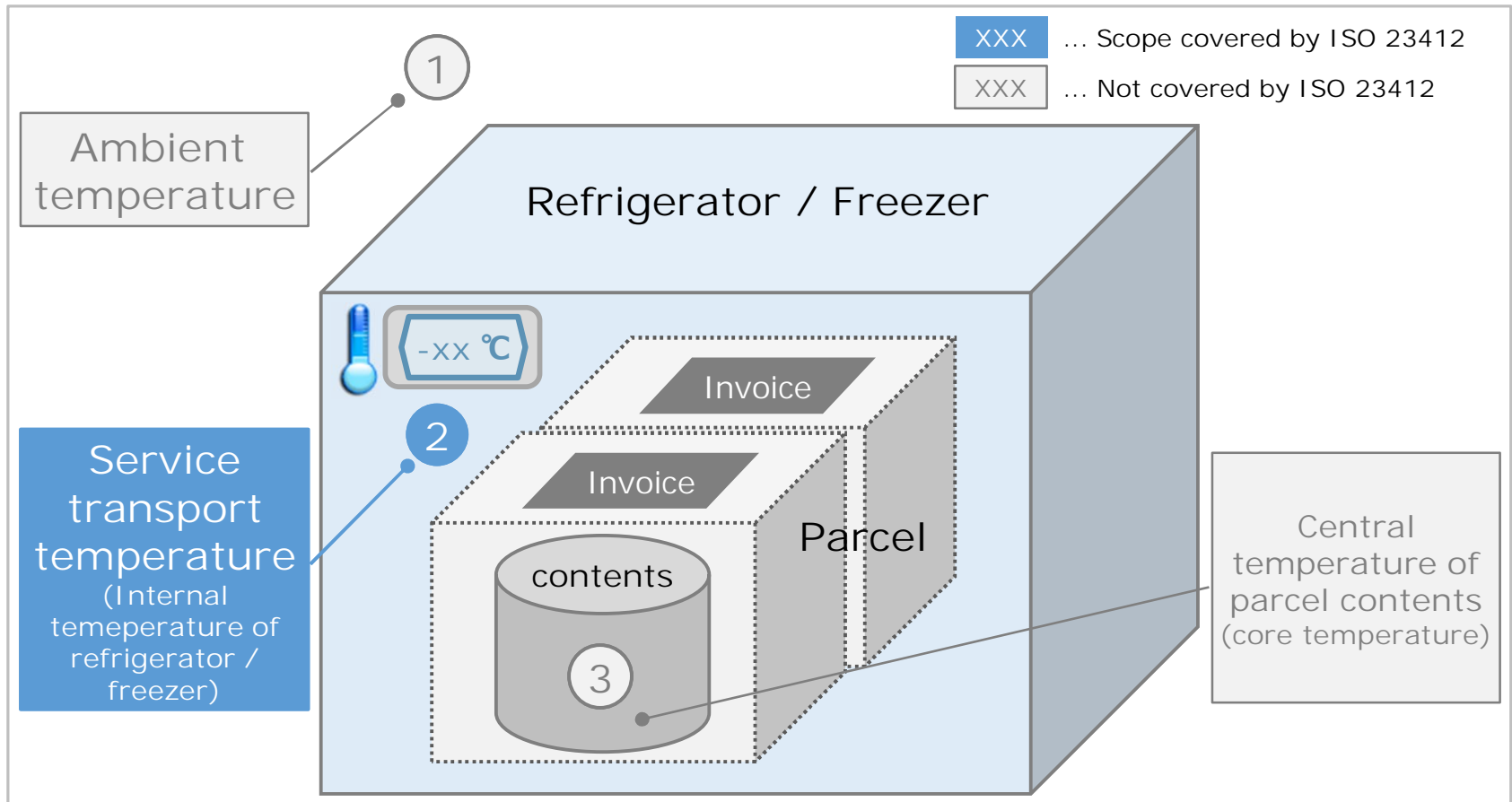
- | |
|---|
| 15 Daily securing of resources |
| 16 Provision of personnel training |

Review

- | |
|--|
| 17 Resource supply and demand situation |
| 18 Scheme for dealing with problems |

1 Subject of control temperature

The service provider shall maintain the internal temperature of the refrigerator/freezer within the service transportation temperature range specified by the service provider.



Parcels with different contents are transported together in one defined temperature range. Therefore, instead of controlling the temperature of each parcel individually, the temperature of the refrigerator and freezer are maintained at the service transportation temperature.

2 Service transport temperature

The service provider shall specify their own service transport temperatures, with cautions to the laws and regulations of each country.

e.g. Japanese logistics company stipulates as below



0 °C-10°C



-15 °C or less





As a business, the service transportation temperature is set by each service provider.

3 Pre-cooling of parcels

The service provider shall stipulate conditions for pre-cooling or pre-freezing by delivery service users and other terms and conditions for accepting refrigerated parcels.

e.g. Japanese logistics company stipulates as below

	Service temperature during transportation	Request to users on pre-cooling time
	0-10 °C	10°C or less for over 6 hours
	-15°C or less	-15°C or less for over 12 hours

* The service provider is possible to provide pre-cooling or pre-frozen as value-added services.

Other terms and conditions	
Maximum size	Width + Length + Height=less than 120 cm
Maximum mass	Within 15kg
Packaging conditions	Put the contents in a plastic bag or other bag, then put it into a cardboard box



Setting appropriate terms and conditions is to guarantee a safe and efficient transportation. For example, if some parcels are not pre-cooled, the internal temperature of refrigerator will rise and lead to the damage of other parcels. In addition, if the maximum size, mass, etc. of parcels are not specified, there will be a risk that the parcel will not fit into the equipment used by the service provider, and the parcel will not be efficiently kept cool.

4 Pre-cooling of equipments

The service provider shall confirm that refrigerators/freezers or cold stores have reached service transport temperatures before transferring refrigerated parcels.



e.g. Japanese logistics company stipulates as below




By setting pre-cooling time and reaching the appropriate temperature, a fully pre-cooled equipment can provide a non-stop transfer process and minimize the time being exposed to the ambient temperature.

5 Emergency measures


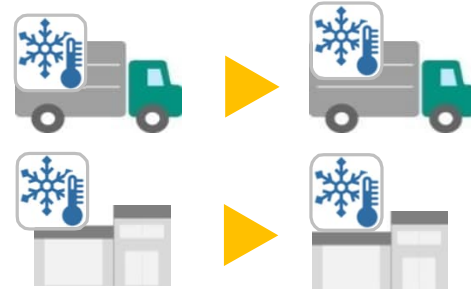

The service provider shall have contingency plans in place, such as during an electric outage or when refrigerated parcel is exposed to non-temperature-controlled environment.

Event examples	Requirements	e.g. Counter measures
If the site is under an electric outage...	A cold store at the site shall have the ability <u>to function continuously</u> without interruption	a) Connect the generator 
		b) Temporarily use cooling materials 
If a refrigerated parcel is placed in a non-temperature-controlled environment or is mistakenly sorted into a different service transport temperature...	The service providers shall <u>provide work instructions</u> to staff working for the refrigerated delivery service <u>according to their respective roles</u>	Promptly report to the person in charge at the site and ask for instructions, etc.

 It is necessary to prepare a contingency plan so that the temperature is properly controlled even in an emergency.

6 Temperature control during transferring

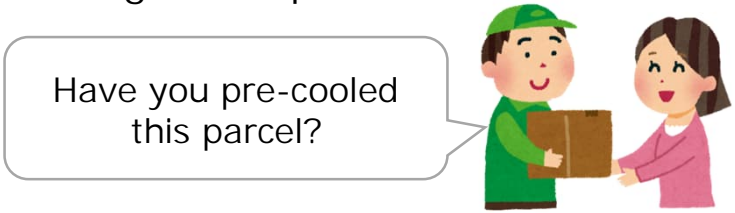
The service provider shall have operational guidelines for transferring the parcel and stipulate the transferring time duration, environmental temperatures, etc.



	Collection	Transportation	Delivery
Transferring	<p>Transfer from the delivery service user to a refrigerator/freezer or cold store</p> 	<p>Transfer between refrigerators/freezers or/and cold stores</p> 	<p>Transfer to the recipient from a refrigerators/freezers or cold store</p> 
Contents stipulated in the operational guidelines	<ul style="list-style-type: none"> a) The transfer time durations b) The temperature of the temperature-controlled environment, or non-temperature-controlled environment to which parcels are exposed c) The recording, monitoring and storage of data coverd by a) and b) 		

At point of transfer, risk of rise in temperature increases. It can be reduced by specifying the length of transfer time in the operational manual. In addition, record and understand the temperature conditions accurately is an important part in customer service.

7 Confirmation of pre-cooling/item upon reception

The service providers should confirm from delivery service users that the refrigerated parcel has been pre-refrigerated/pre-frozen and that it is not a prohibited item, etc.



Terms to be checked	e.g. Japanese logistics company stipulates as below
Pre-cooling/ pre-freezing Estimated pre-cooling time by delivery service users	 10°C or less for over 6 hours
	 -15°C or less for over 12 hours
Item	Dangerous goods cannot be transported by airplain
Maximum size	Width + Length + Height=less than 120 cm
Maximum mass	Within 15kg
Packaging conditions	Put the contents in a plastic bag or other bag, then put it into a cardboard box

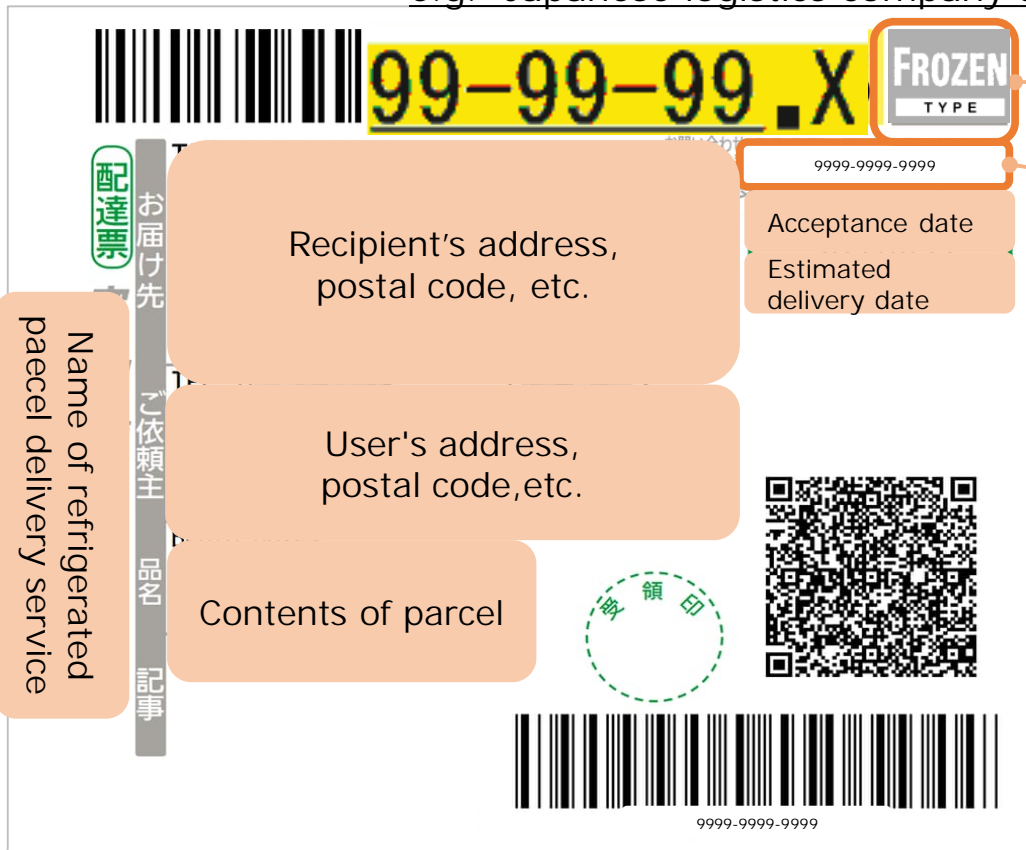


If a parcel is not pre-cooled in advance or its packing condition is insufficient, it will negatively affects not only the parcel itself but also other parcels. Confirmation with user is to achieve the safety of parcel delivery.

8 Labeling

At the point of acceptance, the service provider shall label or mark the classification of temperature ranges such as "chilled" or "frozen", and other information.

e.g. Japanese logistics company stipulates as below



Chilled or frozen

Identification number

9999-9999-9999
Acceptance date
Estimated delivery date

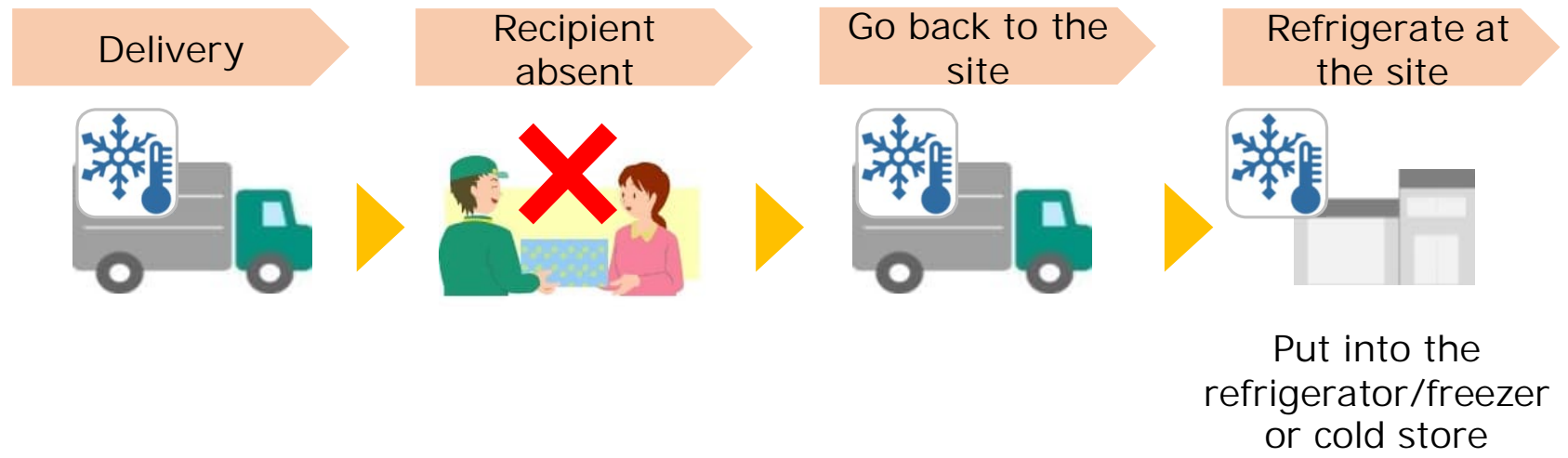
The service provider check that the information labelled or marked is visible on an external face of the refrigerated parcel.



Many staffs are involved in the refrigerated delivery service, so it is necessary to share information clearly. Labeling is to visualize the parcel information such as type of temperature range, prohibited items, or fragile items, etc. Also, it prevents parcels from being handled under the wrong service transportation temperature.

9 Refrigeration upon non-delivery






The service provider should keep parcels refrigerated at the site when the recipient is absent on attempted delivery.




The goal of the service is to deliver a temperature-controlled parcels to customers. When attempted delivery is failed, parcel should be under a temperature-controlled environment until the delivery is success.

10 Monitoring and recording of transport temperature

The service provider shall monitor the internal temperature of refrigerator/freezer and cold store at the site.

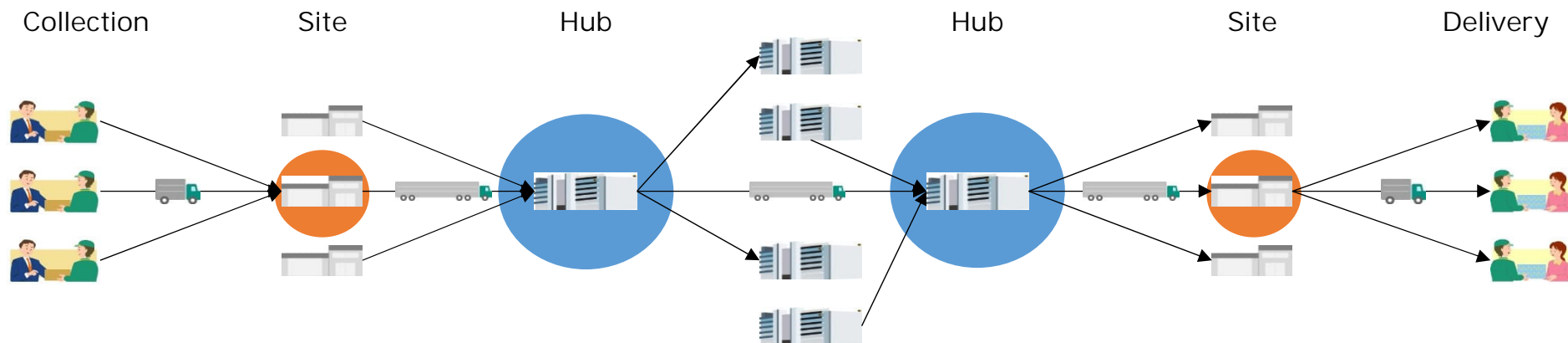
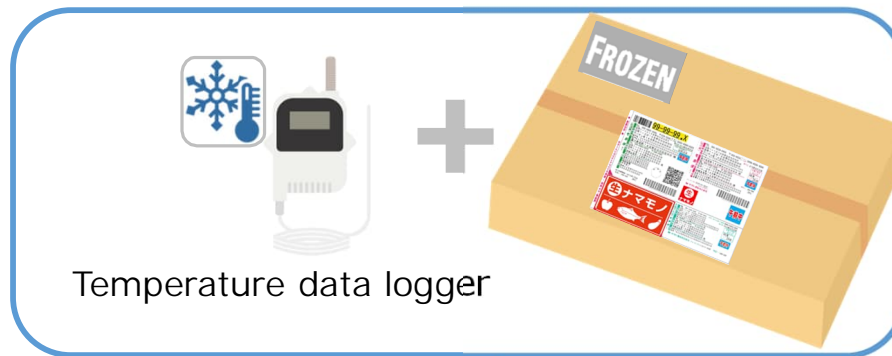
Target of Temperature monitoring	Thermometer	Frequency of recording	Data storage period
Vehicle's refrigerator/freezer 	<ul style="list-style-type: none"> ✓ Insert a calibrated temperature monitoring instrument ✓ Visible 	<ul style="list-style-type: none"> ✓ After pre-cooling/pre-freezing the refrigerator/freezer ✓ At the start and end of every transport journey ✓ At every point of transfer 	Should be set by the service provider e.g. 12 months 
Cold store at the site 	<ul style="list-style-type: none"> ✓ Insert a calibrated temperature monitoring instrument ✓ Visible 	<ul style="list-style-type: none"> ✓ At least 3 scheduled times a day 	

 Reliable refrigerated parcel delivery service is provided under proper temperature control. By monitoring and recording the temperature at the determined timeslot every day and during transfer, etc., equipment malfunctions could be alerted.

11 Effectiveness of temperature control in all processes

The service provider shall conduct testing of the temperature controls and processes within its refrigerated delivery service a minimum of once a month.

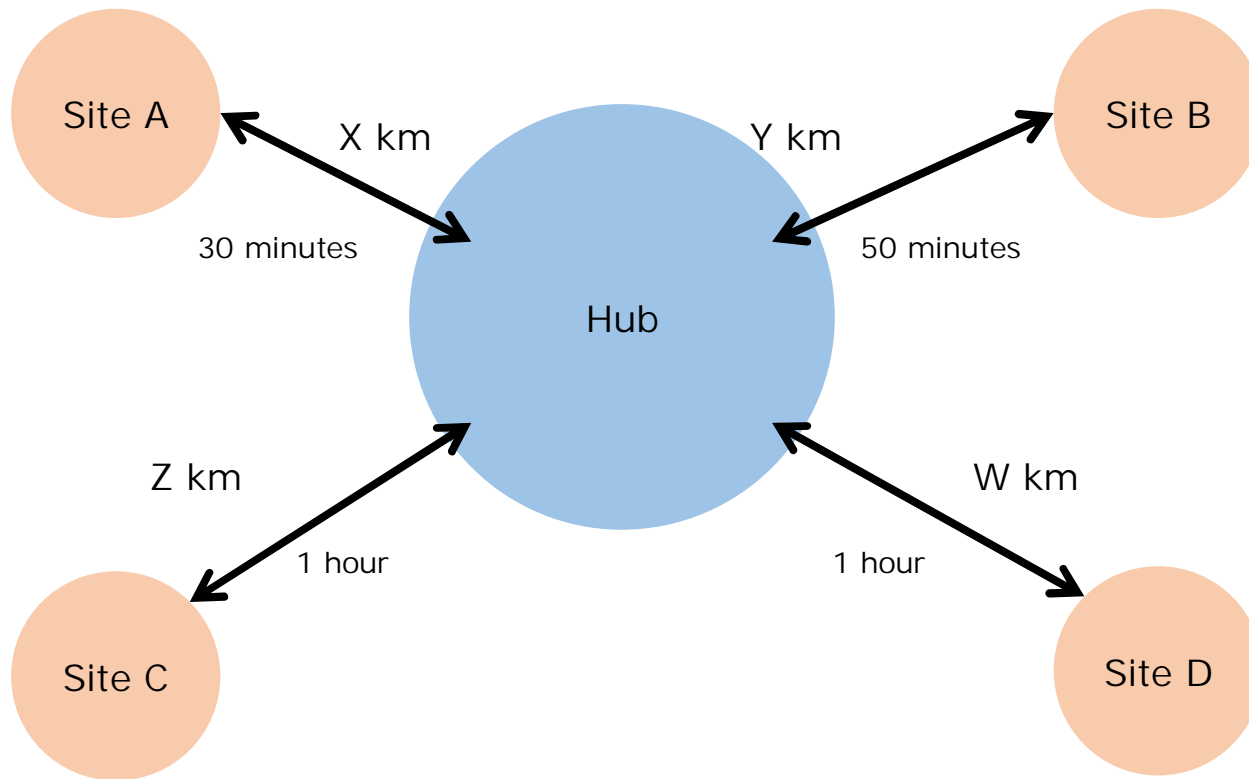
e.g. Test by inserting a temperature data logger from acceptance to delivery at destination



Reliable temperature control can be ensured through conducting test to check whether temperature is appropriately controlled from collection to delivery. Define testing method in the manual enables conducting a test in similar condition.

12 Transportation network

The service provider shall make a plan regarding the distance and time between transportation networks, and transportation schedules for vehicles, etc. The service provider shall also implement a system to monitor and locate each refrigerated parcel. e.g. Tracking system.



An appropriate and effective network (e.g. time, distance, and transportation schedule of the vehicle) is essential to a reliable and on-time delivery, which prevents damage and decay of the content.

13 Security measures for operation sites

The service provider shall implement security measures on each operation site to prevent unauthorized access causing theft and damage to refrigerated parcels. The site shall also be designed to cover refrigerated parcels and protect them from external conditions.

■ Prevention measures at the site

- ✓ Facilities
- ✓ Refrigerated vehicles
- ✓ Cold stores
- ✓ Refrigerated parcels

e.g. Lock the door to prevent outside intrusion.




■ Protection from external conditions at the site

- ✓ When transferring refrigerated parcels
- ✓ Temporary storage of refrigerated parcels in the refrigerator/freezer

e.g. Transferring is carried out indoors or under a roof to avoid exposure to wind and rain.



 These are the requirements to prevent the refrigerated parcels from being stolen or damaged.


14 State of transportation network

The service provider shall have a system in place to record and monitor the location of refrigerated parcels on the transportation network.

subject		Necessary information
Each refrigerated parcel	1	Identification number *
	2	Location *
	3	Designated destination (direction number, etc.)
	4	Size and mass
	5	Time and date of acceptance
	6	Time and date of delivery
	7	Total time taken from acceptance to arrival at designated destination
Whole refrigerated parcels	1	Volume of refrigerated parcels delivered through the transportation network and each site daily
	2	Temperature of refrigerated parcels since acceptance, if applicable, environmental temperatures during transfer times
	3	Not deliveries

e.g. Monitoring and recording system for refrigerated parcels


Tracking No.	9999-9999-9999	
Size and mass	Delivery date and time (estimated)	Designated destination
100 size	November 1st No time specified	A site
Status	Time and date	Location
Acceptance	14:30, October 31st	B site
Passing through the transportation base	02:00, November 1st	C transportation base
Delivery completed	10:00, November 1st	A site

 Parcels received from customers should be traceable. The system enables to trace the parcel location, and identify if the refrigerated parcel goes to the wrong place.

15 Securing daily resources


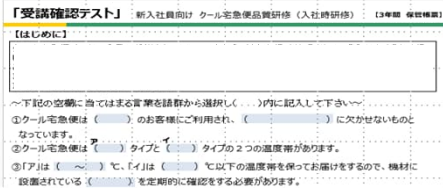
The service provider shall check and secure resources (including personnel, equipment, etc.) on a daily basis.

			Implementation	e.g.	
Who	Service provider e.g. logistics company	1	Assign a responsible person	✓ Site manager	
		2	Communicate to the responsible person in writing expected duties	✓ Proper temperature control ✓ Hygiene management ✓ Educational guidance for staff, etc.	
	Responsible person e.g. site manager, staff	Daily checks	1	Verify that the required resources for the site to function are present	✓ Number of staff ✓ Number of equipment etc.
			2	Verify that the resources function correctly	✓ Confirmation of staff operations ✓ Refrigerator/freezer, cold store, etc.
		Results of daily checks	3	Implement remedial action if necessary	✓ Staff retraining ✓ If there is a problem with the equipment, immediately repair it or arrange for a replacement
			4	Record and retain	✓ Create a document and keep it for ○ years * Please note the relevant regulations regarding the retention period

 It is important to secure resources to provide quality services to customers. For example, if the service cannot be provided due to a shortage of staff or space in refrigerators, it will damage the refrigerated parcel, resulting in low service quality.

16 Provision of personnel training

The service providers shall design, document, and provide relevant training programmes for new staff members. If there are any changes to the operation of the service, additional training or repeated training shall be conducted.

Training	Programmes	e.g. Japanese logistics company	
		Documentation	Training record
For new staff	<ul style="list-style-type: none"> ✓ Work instructions ✓ Work instructions for transferring refrigerated parcels ✓ How to use the equipmentst/viecles ✓ Contingency plans ✓ Hygiene and sanitation ✓ Food safety, etc. 	<ul style="list-style-type: none"> ✓ Teaching materials (papers, movies, etc.) 	<ul style="list-style-type: none"> ✓ Retained for 3 yaers * Please note the relevant regulations regarding the retention period
Add/Repe at	<ul style="list-style-type: none"> ✓ There is a change to the service attributes or operations ✓ Therer are new processes or procedures introduced in the service ✓ There are new refrigerator/freezer or cold stores ✓ A staff member is underperforming, etc. 	<ul style="list-style-type: none"> ✓ Confirmation test (papers, e-learning, etc.) 	



Trained staff supports quality service. While most of the operations are conducted by human operation, training and allocating skilled staff stabilizes service quality level.

17 Resource supply and demand situation

The service provider shall analyze and forecast maximum number of parcels that can be handled, analyze demand and supply of resource, and plan the necessary measures.

	Implementation
1	<ul style="list-style-type: none"> ✓ Monitor and record the number of chilled and/or frozen parcels daily
2	<ul style="list-style-type: none"> ✓ Undertake an analysis of the maximum expected number of chilled and/or frozen parcels within a defined period <ul style="list-style-type: none"> • Confirm that have the correct resources • Documented, reviewed and updated a minimum of once a year
3	<ul style="list-style-type: none"> ✓ If there is a peak period of high demand, <ul style="list-style-type: none"> • Implement a contingency plan (to obtain additional resources for each site or to limit the acceptance parcels) • If the increase in demand is consistent, evaluate and implement plans for expansion of operation site, additional resource commitment, or establishing new operation sites

Ref.) Seasonal events requiring analysis of maximum number of parcels	<ul style="list-style-type: none"> • Chinese New Year • Moon Festival • Double Eleven (Nov 11th) • Black Friday
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The requirement aims to provide high quality service by preparing for unexpected peaks, such as contingency plan. Even if the amount of parcel is currently stable, sudden peaks are unexpectable. Well preparation will result in high-quality service without panic in such cases.



18 Scheme for the dealing with problems

If cases of delayed or unsuccessful deliveries occur or increase, the service provider shall identify the causes and take improvement measures. The service provider shall also prevent accumulation of undelivered parcels and prevent recurrence.

	Phenomenon	Implementation	e.g.
1	Where there is a consistent or rising pattern of refrigerated parcels not arriving at the designated destination within the standard delivery timescales	Investigate the cause of the delays or non-deliveries	【Cause】 The vehicles are stuck in traffic between Hub A and Hub B, and veicles do not arrive at Hub B on time.
2	Where issues and root causes are identified	Course of action shall be created and followed	Change the transportation route from Hub A to Hub B. Measure the distance and time of the new route and amend the transportation schedule



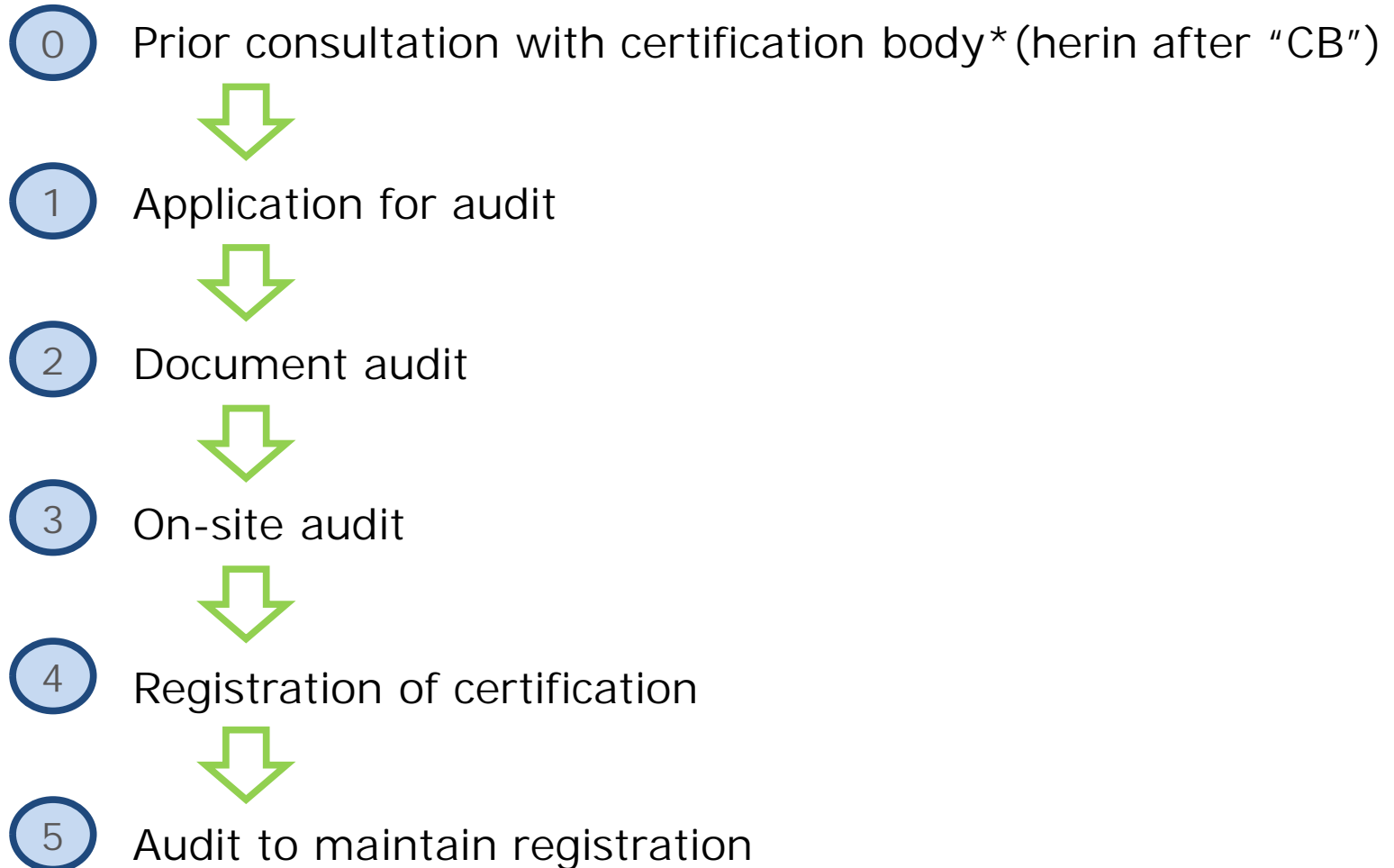
The requirement aims to improve quality service continuously through identifying the cause of problems and taking measures.

3. Explanation of the certification process

Purpose : This chapter is to provide an idea of the certification process

Contents : Explanation of the general certification process by certification bodies

1. Certification process



3. Explanation of the certification process

2. Explanation of each process

0 Prior consultation with CB

Contact the CB that you want to obtain certification from and confirm the necessary documents and certification process in advance.

1 Application for audit

Application



Acceptance of the application by CB



Quotation

<u>Quotation</u> \$ XX,XXX

< Example of documents required for application >

- Application form
- Company brochure, company profile, etc.
- Specifications for equipment
- Operation manuals, etc.

Contact the CB and obtain a quotation (It is common that the amount varies depending on the scope of certification (number of establishments, etc.).)

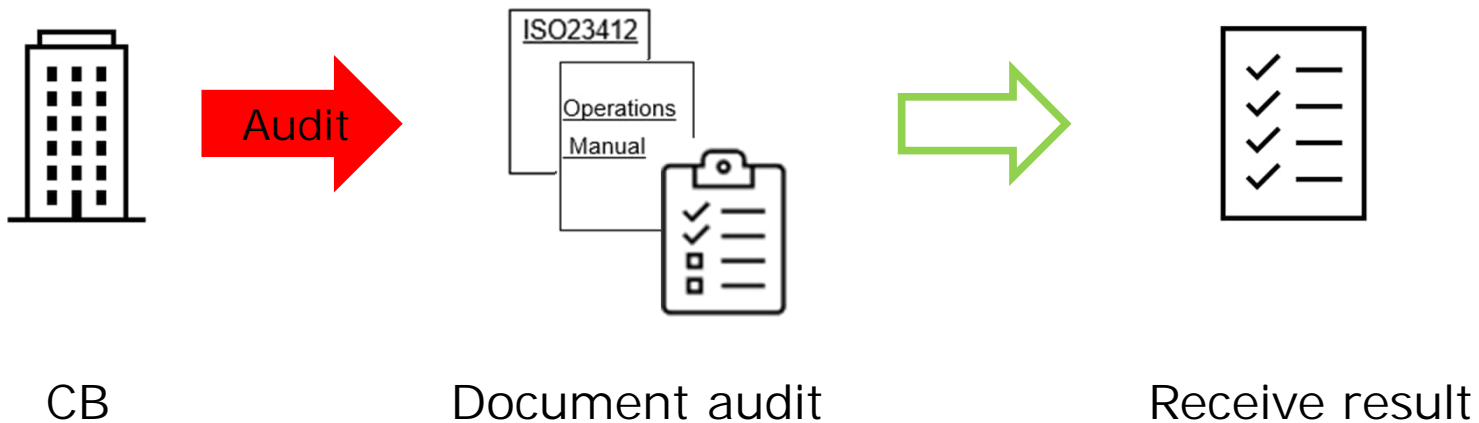
3. Explanation of the certification process

2 Document audit

Caution!

The manual must meet ISO requirements.

→ For document review, it is necessary to state the practices in the manual.



3. Explanation of the certification process

3 On-site audit

Receive on-site audit plan



On-site Audit



Receive result

Receive notification of the audit plan including information such as the schedule

Check on site whether the operation is carried out in accordance with the operation manual which in accordance with the requirements of ISO23412.



Receive Corrective action request *
(If applicable)

Upon receipt of a Corrective action request

- Create a corrective action plan
- Implementation of corrective actions



Follow up audit

Document audit or at next audit




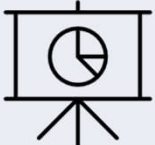


Receive result

3. Explanation of the certification process

3 On-site audit

【Reference】 Image on the day of the on-site audit (example)

		Implementation Overview
Opening meeting		Introduction of members Explanation of the audit Confirmation of the schedule of the audit
On-site check		On-site check (Check operation is in accordance with the operation manual.) Conducting interviews, reviewing documents and records Checking equipment
Team meeting		Evaluate the audit by the members only and summarize the evaluation and conclusions
Closing meeting		Explanation of the result (and corrective recommendation if any) and subsequent flow. ※The review finding will be explained here, but the official result will be sent later.

3. Explanation of the certification process

4 Registration of certification

If no nonconformity is found, certification is determined by the CB and a certificate will be issued. Generally, the registered company is listed on the website of the CB.

In addition, the use of certification mark is permitted (For details, see "4. How to appeal certified ISO23412 to stakeholders").

5 Review to maintain registration

To evaluate compliance with ISO23412 ...

Intermediate Audit

Review conducted within the valid period

Renewal Audit

A renewal certificate will be issued upon completion of the audit around the end of the valid period.

Occasional Audit

Done in following cases :

- significant change in the work procedure
- change in scope of application
- change in requirement, etc

Audit period varies depending on the CB

3. Explanation of the certification process

6 Withdrawing, suspending of registration

If the following events occur, the registration will be withdrawn or suspended.

Withdrawal request

Serious nonconformities in audit

Not accepting intermediate or renewal audit

Non-payment of audit fee

False explanation in audit

Serious legal violation, etc.

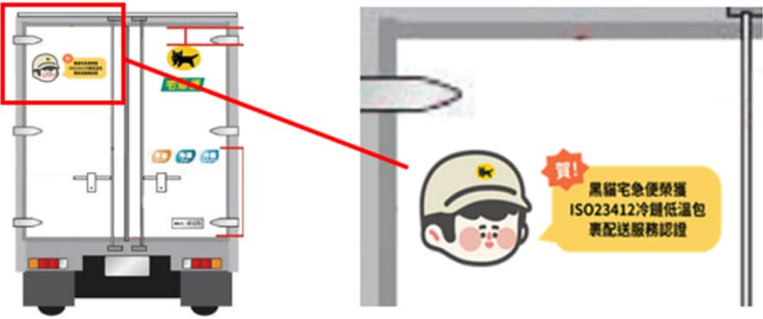


These certification processes are reference examples.
For more details, please contact the CB that you want to obtain certification from.



4. How to appeal certified ISO23412 to stakeholders

Widely publicized by stickers on the back of trucks



List on company information

サービスの特徴として記載

服務特徴

高密度服務據點：全台營業所及代收據點數超過7,000處。	常溫/冷藏/冷凍三溫度專業溫控配送。	一通電話或官網預約當日到府集貨。	台灣本島不分距離依包裹尺寸統一計價。	宅配包裹可轉7-ELEVEN門市，24小時皆可取件。	ISO 23412 ISO 27001 低溫運送品質資訊安全管理通過ISO認證。
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Certification mark on business card

OOO Co., Ltd.
manager

Frozen Hanako

TELXXX-XXXX-XXXX

Address: 1-2-3, OO-cho, OO-ku

The business card features the ISO 23412:2020 ClassNK logo, which includes the text "Indirect, temperature-controlled refrigerated delivery services - Last transport of parcels with intermediate transfer". A yellow box with the word "SAMPLE" is overlaid on the card.

List on company website

鮮度をそのままに

The image shows the "クール宅急便" (Cool Express) logo and a BSI certification mark for ISO 23412 Temperature Controlled Refrigerated Delivery Certified, which is highlighted with a red box.

Put at the sites



4. How to appeal certified ISO23412 to stakeholders

Awareness through video



Certified companies highlight the ISO 23412 certification through videos

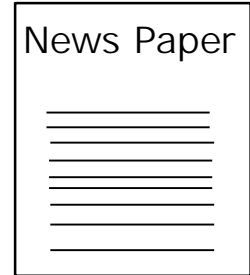
1. [Company introduction](#)
2. [Grapes farmer](#)
3. [Mango farmer](#)

Improving service through operations with standard



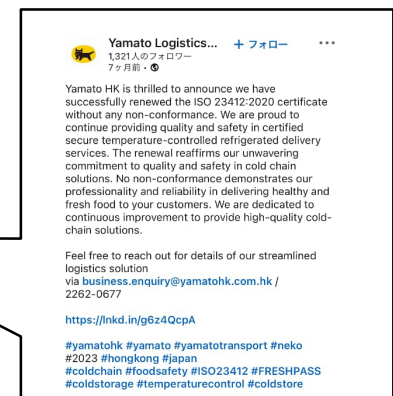
Dissemination through the media

Frozen Ltd. to receive ISO23412 cold chain logistics services certification



PR through SNS

Posting certificates on LinkedIn and other social networking sites to promote



This guidance is the product of the "Study on International standardization of cold chain logistics", commissioned by the Ministry of Economy, Trade and Industry (METI) in 2023.