

Temperature-Controlled Packaging

General Catalog

KANEKA

プラスチックフォームの総合メーカー
 **玉井化成**

Keep your temperature-sensitive products within a safe temperature range with TACPack®!

Transport pharmaceutical drugs, chemicals, and food with TACPack®

TACPack®

TACPack® is designed to maintain the load temperature within a certain temperature range by reducing heat incoming from the outside through the insulated box and by absorbing/releasing heat energy through Kaneka PATTHERMO®.

The payload temperature can be set to the desired temperature range by changing the type of Kaneka PATTHERMO® which have a wide variety of melting points. Readily available TACPack® options are for ranges of 2-8°C, 15-25°C, 35-38°C, below -20°C, below -40°C, and below -60°C.

*The temperature displayed for each product in the graph below is an example. Set the temperature accordingly to the product to transport.

Pharmaceutical drugs / Reagents	Frozen products	Cells
 <p>15-25°C, 2-5°C, below -20°C</p>	 <p>-20°C, below -40°C, below -60°C</p>	 <p>35-38°C</p>
Chemicals	Precision equipment	Food
 <p>15-25°C, 2-8°C, below -20°C</p>	 <p>15-25°C</p>	 <p>15-25°C</p>

Combining KANEKA's PCM and insulation material

Temperature-Controlled Packaging "TACPack®"

Temperature-Controlled Packaging

"TACPack®"



Phase Change Material (PCM)

Kaneka PATTHERMO®

Insulated box

Expanded polystyrene
Vacuum insulation panel (VIP)



TACPack® Series

Introduction of TACPack® Series



Temperature Controlled Packaging "TACPack®" Series

TACPack® basic series is a temperature-controlled packaging that combines Kaneka PATTHERMO® and an expanded polystyrene insulated box.

Temperature Range *The temperature range shown here does not guarantee to keep within the temperature range inside the packaging.

> 35°C-38°C

> 15°C-25°C

> 2°C-8°C

> below -20°C

> below -40°C

Basic Combination of TACPack®

Cardboard + Expanded Polystyrene

Recommended for one-time use in domestic transportation.

- Expanded polystyrene (lid)
- Expanded polystyrene (box)
- Kaneka PATTHERMO®
- Cardboard (outer)



TACPack® Options

Aluminum outer cover + expanded polystyrene

Recommended for multiple uses in domestic transportation.

- Expanded polystyrene (lid)
- Expanded polystyrene (box)
- Kaneka PATTHERMO®
- Aluminum cover (outer)



*The photos shown here are representative examples of the packaging specification, and are subject to change.

TACPack®37 Series 35°C-38°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H (mm)	Payload W×D×H (mm)	Payload Volume (l)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		Duration / Ambient temperature		
					Insulation Material	Outer	Grade	pcs.	25°C	5°C	-10°C
TACPack37SS	335×235×260	190×14×135	0.3	1.7	EPS	Cardboard	F37 480gHD	2	66h	12h	6h
TACPack37FS	515×320×385	230×180×80	3.3	7.2	EPS	Cardboard	F37 1,000gHD	4	90h	16h	8h
TACPack37FS5	515×320×385	230×180×45	1.8	8.7	EPS	Cardboard	F37 1,000gHD	5	137h	39h	23h
TACPack37FH	475×455×525	180×220×195	7.7	13.6	EPS	Cardboard	F37 1,000gHD	8	131h	32h	21h
TACPack37LF	640×450×515	355×215×195	14.8	19.5	EPS	Cardboard	F37 1,000gHD	12	139h	38h	18h

TACPack®1525 Series 15°C-25°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H (mm)	Payload W×D×H (mm)	Payload Volume (l)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		Duration / Ambient temperature		
					Insulation Material	Outer	Grade	pcs.	35°C	5°C	-10°C
TACPack1525SS	335×235×260	190×14×135	0.3	1.8	EPS	Cardboard	F20 480gHD	2	48h	51h	26h
TACPack1525FS	515×320×385	230×180×80	3.3	7.3	EPS	Cardboard	F20 1,000gHD	4	108h	112h	51h
TACPack1525FH	475×455×525	180×220×195	7.7	13.8	EPS	Cardboard	F20 1,000gHD	8	155h	152h	72h
TACPack1525F	640×450×515	370×220×275	22.3	12.4	EPS	Cardboard	F20 1,000gHD	6	77h	79h	35h
TACPack1525LF	640×450×515	355×215×195	14.8	19.9	EPS	Cardboard	F20 1,000gHD	12	152h	160h	78h
TACPack1525HB	685×630×635	470×315×330	48.8	23.6	EPS	Cardboard	F20 1,000gHD	16	143h	148h	69h
TACPack1525FD	685×630×635	Φ430×380	55.1	24.6	EPS	Cardboard	F20 1,000gHD	16	127h	135h	67h

TACPack®0208 Series 2°C-8°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H (mm)	Payload W×D×H (mm)	Payload Volume (l)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		Duration / Ambient temperature		
					Insulation Material	Outer	Grade	pcs.	35°C	25°C	-10°C
TACPack0208SS	335×235×260	190×14×135	0.3	1.7	EPS	Cardboard	F5 480gHD	2	19h	26h	51h
TACPack0208FS	515×320×385	230×180×80	3.3	7.2	EPS	Cardboard	F5 1,000gHD	4	37h	54h	96h
TACPack0208FH	475×455×525	180×220×195	7.7	13.6	EPS	Cardboard	F5 1,000gHD	8	46h	80h	135h
TACPack0208F	640×450×515	355×215×195	14.8	19.5	EPS	Cardboard	F5 1,000gHD	12	47h	84h	140h
TACPack0208FD	685×630×635	Φ430×380	55.1	24.2	EPS	Cardboard	F5 1,000gHD	16	41h	73h	116h
TACPack0208ZS	515×320×385	230×180×80	3.3	7.5	EPS	Cardboard	F5 1,000gHD	2	27h	58h	20h
							CV-2 1,200gHD	2			
TACPack0208Z	640×450×515	355×215×195	14.8	19.0	EPS	Cardboard	F5 1,000gHD	6	47h	74h	28h
							CV-2 1,200gHD	5			
TACPack0208HB	685×630×635	470×315×330	48.8	26.0	EPS	Cardboard	F5 1,000gHD	8	37h	57h	22h
							CV-2 1,200gHD	8			

TACPack®-20 Series below -20°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H (mm)	Payload W×D×H (mm)	Payload Volume (l)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		Duration / Ambient temperature		
					Insulation Material	Outer	Grade	pcs.	35°C	25°C	-10°C
TACPack-20SS	335×235×260	190×20×135	0.5	1.6	EPS	Cardboard	CV-30 500gHD	2	13h	16h	62h
TACPack-20S4	515×320×385	230×180×80	3.3	8.2	EPS	Cardboard	CV-30 1,300gHD	4	20h	37h	163h
TACPack-20S5	515×320×385	230×180×45	1.8	9.7	EPS	Cardboard	CV-30 1,300gHD	5	49h	59h	168h
TACPack-20H8	475×455×525	180×220×195	7.7	15.7	EPS	Cardboard	CV-30 1,300gHD	8	33h	41h	168h
TACPack-20H9	475×455×525	180×220×155	6.1	17.2	EPS	Cardboard	CV-30 1,300gHD	9	52h	62h	168h
TACPack-20L	640×450×515	355×215×163	12.4	25.7	EPS	Cardboard	CV-30 1,300gHD	14	59h	66h	168h

TACPack®-40 Series below -40°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H (mm)	Payload W×D×H (mm)	Payload Volume (l)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		Duration / Ambient temperature	
					Insulation Material	Outer	Grade	pcs.	35°C	5°C
TACPack-40SS	335×235×260	190×20×135	0.5	1.6	EPS	Cardboard	CV-50 500gHD	2	8h	13h
TACPack-40S4	515×320×385	230×180×80	3.3	9.0	EPS	Cardboard	CV-50 1,500gHD	4	15h	29h
TACPack-40S5	515×320×385	230×180×45	1.8	10.7	EPS	Cardboard	CV-50 1,500gHD	5	31h	51h
TACPack-40H8	475×455×525	180×220×195	7.7	17.3	EPS	Cardboard	CV-50 1,500gHD	8	26h	43h
TACPack-40H9	475×455×525	180×220×155	6.1	19.0	EPS	Cardboard	CV-50 1,500gHD	9	33h	54h
TACPack-40L	640×450×515	355×215×163	12.4	28.5	EPS	Cardboard	CV-50 1,500gHD	14	37h	64h

TACPack® Premium Series

Introduction of TACPack® Premium series



TACPack® Premium Series; Vacuum Insulation Panel (VIP) Packaging

TACPack® Premium Series demonstrated an approximately two times longer duration in our in-house tests compared to the TACPack® standard series by adopting an insulation box that combines vacuum insulation panels and expanded polystyrene.

Temperature Range *The temperature range shown here does not guarantee to keep within the temperature range inside the packaging.

> 15°C-25°C

> 2°C-8°C

> 1°C-5°C

> below -20°C

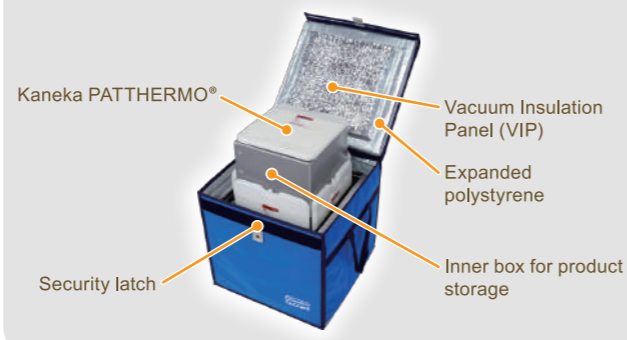
> below -40°C

> below -60°C

Basic Combination of TACPack® Premium S



Basic Combination of TACPack® Premium



*The photos shown here are representative examples of the packaging specification, and are subject to change.

TACPack®1525 Premium Series 15°C-25°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H(mm)	Payload W×D×H(mm)	Payload Volume (t)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests		Ambient Temperature35°C ※N = 1 Tests	
					Insulation Material	Outer	Grade	pcs.	No Load	With Load	No Load	With Load	No Load	With Load
TACPack1525Premium	505×505×473	293×293×255	21.89	12.5	XPS+VIP	Fabricated	F20 1,000gHD 300sqmm	4	over 144h	—	133h	—	—	—
TACPack1525Premium(S)	375×345×295	210×135×55	1.5	6.7	XPS+VIP	Fabricated	F20 480g HD	5	—	—	—	—	184h	—

TACPack®0208 Premium Series 2°C-8°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H(mm)	Payload W×D×H(mm)	Payload Volume (t)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests		Ambient Temperature35°C ※N = 1 Tests	
					Insulation Material	Outer	Grade	pcs.	No Load	With Load	No Load	With Load	No Load	With Load
TACPack0208Premium72	505×505×473	293×293×255	21.89	15.0	XPS+VIP	Fabricated	F5 1,000gHD 300sqmm	6	80h	83h	over 96h	over 96h	—	—
TACPack0208Premium96	505×505×473	293×293×205	17.59	18.0	XPS+VIP	Fabricated	F5 1,000gHD 300sqmm	8	107h	110h	over 120h	over 120h	—	—
TACPack0208Premium(S)	375×345×295	210×135×55	1.5	6.7	XPS+VIP	Fabricated	F5 480g HD	5	—	—	—	—	61h	—

TACPack®0105 Premium Series 1°C-5°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H(mm)	Payload W×D×H(mm)	Payload Volume (t)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests		Ambient Temperature35°C ※N = 1 Tests	
					Insulation Material	Outer	Grade	pcs.	No Load	With Load	No Load	With Load	No Load	With Load
TACPack0105Premium	505×505×473	293×293×205	17.59	18.2	XPS+VIP	Fabricated	F3 1,000gHD 300sqmm	8	77h	—	over 168h	—	—	—

TACPack®-20 Premium Series below -20°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H(mm)	Payload W×D×H(mm)	Payload Volume (t)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests		Ambient Temperature35°C ※N = 1 Tests	
					Insulation Material	Outer	Grade	pcs.	No Load	With Load	With Load	With Load	No Load	With Load
TACPack-20Premium	505×505×473	293×293×205	17.59	19.8	XPS+VIP	Fabricated	CV-30 1,300gHD 300sqmm	8	94h	—	176h	—	—	—
TACPack-20Premium(S)	375×345×295	210×135×55	1.5	6.6	XPS+VIP	Fabricated	CV-30 500gHD	5	—	—	—	—	48h	—

TACPack®-40 Premium Series below -40°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H(mm)	Payload W×D×H(mm)	Payload Volume (t)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests		Ambient Temperature35°C ※N = 1 Tests	
					Insulation Material	Outer	Grade	pcs.	No Load	With Load	No Load	With Load	No Load	With Load
TACPack-40Premium	505×505×473	293×293×205	17.59	20.0	XPS+VIP	Fabricated	CV-50 1,500gHD 300sqmm	8	53h	55h	77h	85h	—	—
TACPack-40Premium(S)	375×345×295	210×135×55	1.5	6.6	XPS+VIP	Fabricated	CV-50 500gHD	5	—	—	—	—	33h	—

TACPack®-60 Premium Series below -60°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

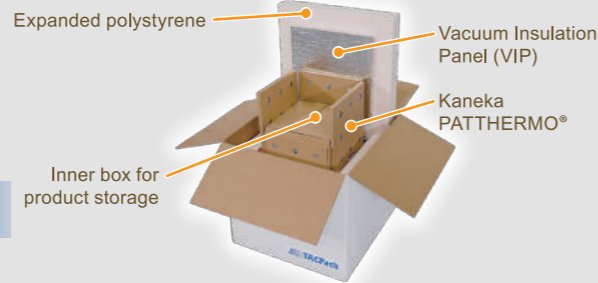
Product Name	Outer Dimension W×D×H(mm)	Payload W×D×H(mm)	Payload Volume (t)	Weight (kg)	Main Specifications		Kaneka PATTHERMO®		Ambient temperature35°C ※N = 1 Tests	
					Insulation Material	Outer	Grade	pcs.	Frozen at -80°C	Frozen at -120°C
TACPack-60Premium 10	505×505×473	293×293×160	13.73	30.0	XPS+VIP	Fabricated	CV-70 1,800gHD 300sqmm	10	36h	48h
TACPack-60Premium(S)	375×345×295	210×135×55	1.5	7.1	XPS+VIP	Fabricated	CV-70 600gHD	5	16h	22h

TACPack® Premium-One Series

Introduction of TACPack® Premium One series



Basic Combination of TACPack® Premium-One



TACPack® Premium-One series (VIP Packaging for Single Use)

This is a single-use VIP packaging for international transportation which uses insulation that combines vacuum insulation panel and expanded polystyrene. It is suitable for temperature-controlled transportation of small products, long-distance and long-duration transportation.

Temperature Range *The temperature range shown here does not guarantee to keep within the temperature range inside the packaging.

> 15°C-25°C

> 2°C-8°C

> below -20°C

TACPack®1525 Premium-One Series

15°C-25°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension (mm)	Payload (mm)	Payload Volume (t)	Weight (kg)	Main Specifications	Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests	
						Insulation Material	Outer	Grade	pcs.	No Load	With Load
TACPack1525Premium-One30	543×543×512	370×296×282	30	16	XPS+VIP Cardboard	F20 2,000g (C/T)	3	286h	—	212h	—
TACPack1525Premium-One48	655×550×575	482×296×337	48	25	XPS+VIP Cardboard	F20 3,000g (C/T)	3	310h	—	213h	—
TACPack1525Premium-One79	770×660×625	530×405×369	79	32	XPS+VIP Cardboard	F20 2,000g (C/T)	2	360h	—	238h	—
						F20 3,000g (C/T)	3				

TACPack®0208 Premium-One Series

2°C-8°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension (mm)	Payload (mm)	Payload Volume (t)	Weight (kg)	Main Specifications	Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests	
						Insulation Material	Outer	Grade	pcs.	No Load	With Load
TACPack0208Premium-One20	543×543×512	296×296×232	20	22	XPS+VIP Cardboard	F5 2,000g (C/T)	6	211h	—	over 216h	—
TACPack0208Premium-One24	543×543×512	296×296×282	24	20	XPS+VIP Cardboard	F5 2,000g (C/T)	5	166h	—	over 216h	—
TACPack0208Premium-One33	655×550×575	386×296×292	33	29	XPS+VIP Cardboard	F5 2,000g (C/T)	2	190h	—	over 216h	—
						F5 3,000g (C/T)	4				
TACPack0208Premium-One50	770×660×625	456×331×332	50	45	XPS+VIP Cardboard	F5 2,000g (C/T)	4	216h	—	over 216h	—
						F5 3,000g (C/T)	6				

TACPack®-20 Premium-One Series

below -20°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension (mm)	Payload (mm)	Payload Volume (t)	Weight (kg)	Main Specifications	Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests	
						Insulation Material	Outer	Grade	pcs.	No Load	With Load
TACPack-20Premium-One20	543×543×512	296×296×232	20	28	XPS+VIP Cardboard	CV-30 3,000g (C/T)	6	164h	—	—	—
TACPack-20Premium-One24	543×543×512	296×296×282	24	25	XPS+VIP Cardboard	CV-30 3,000g (C/T)	5	134h	—	—	—

*The photos shown here are representative examples of the packaging specification, and are subject to change.

TACPack® Palette Series

Introduction of TACPack® Pallet series



TACPack® Palette Series

Palette Series is for international transportation. It is suitable for temperature-controlled transportation of large volumes, long-distance and long-duration transportation.

Temperature Range *The temperature range shown here does not guarantee to keep within the temperature range inside the packaging.

> 15°C-25°C

> 2°C-8°C

TACPack®1525 Palette Series

15°C-25°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension (mm)	Payload (mm)	Payload Volume (t)	Weight (kg)	Insulated Box	Outer	Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 1 Tests		ISTA7D WINTER 24Hr cycle ※N = 1 Tests	
							Grade	pcs.	No Load	With Load	No Load	With Load
TACPack1525-PLT	1,400×1,400×1,530	1,100×930×1,080	1,104	90.0	EPS	Enhanced paper, etc.	F20 1,000gHD	46	179h	—	—	—

TACPack®0208 Palette Series

2°C-8°C

*The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension (mm)	Payload (mm)	Payload Volume (t)	Weight (kg)	Insulated Box	Outer	Kaneka PATTHERMO®		ISTA7D SUMMER 24Hr cycle ※N = 3 Tests		ISTA7D WINTER 24Hr cycle ※N = 3 Tests	
							Grade	pcs.	No Load	With Load	No Load	With Load
TACPack0208WP-PLT	1,100×1,100×1,530	700×700×960	470.4	100.0	EPS	Enhanced paper, etc.	F5 550g (C/T)	33	110h	93h	117h	141h
							0HG 1,000g (C/T)	45				
TACPack0208WP1500-PLT-S	1,680×1,680×1,520	1,250×1,250×960	1500.0	185.0	EPS	Enhanced paper, etc.	F5 350g (C/T)	89	125h	—	—	—
							0HG 1,000g (C/T)	89				
TACPack0208WP1500-PLT-W	1,680×1,680×1,520	1,250×1,250×960	1500.0	100.0	EPS	Enhanced paper, etc.	F5 350g (C/T)	89	—	—	over 144h	—

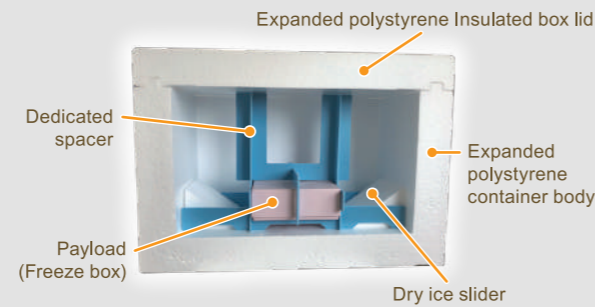
*The photo shown here is a representative example of the packaging specification, which can be subject to change.

TACPack® Di Series

Introduction of TACPack® Di series



Basic Combination of TACPack® Di



About TACPack® Di series

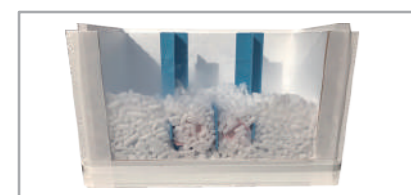
- The load is kept below -70°C through the φ9mm dry ice that is placed in the box through the top to properly surround the payload. The temperature data of the load and the duration of the load being below -70°C is available.
- All lineup products have temperature data of the payload and the duration of the payload being below -70°C.
- By using a dedicated spacer, the goods in the container are held in place and stabilized.

How to Fill the Dry ice



The Mechanism of Temperature Maintenance and The Recommended Dry ice Type

Mechanism of Maintaining Temperature



Temperature in the payload is maintained as the upper dry ice moves to surround the payload as it sublimates.

Recommended Dry ice Type

Use φ9mm or smaller pellet dry ice.

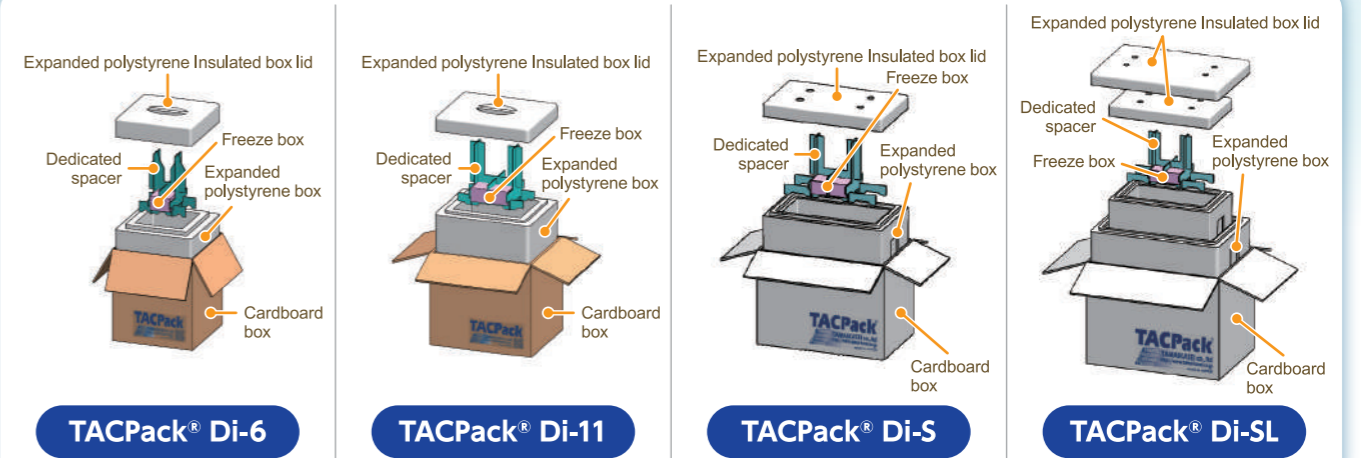


Precautions for Handling Dry ice

- Please do not touch it directly by hand or put it in your mouth as it may cause frostbite.
- When transporting the packaging by car, do not place it in close proximity to the driver and the passengers as it may cause hypoxia.
- Do not use in a basement or room without ventilation. It may cause hypoxia.

*The photo shown here is a representative example of the packaging specification, and are subject to change.

Configuration Chart by Package



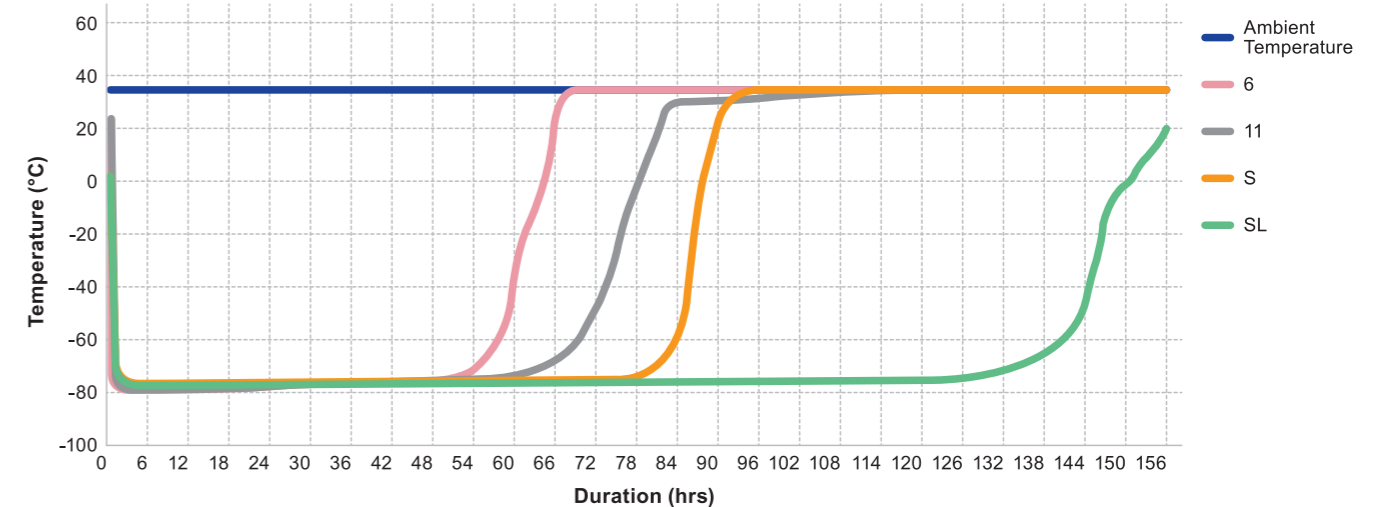
Temperature Range *The temperature range shown here does not guarantee to keep within the temperature range inside the packaging.

> below -60°C

TACPack® Di Series below -60°C *The duration shown in the table below is an example from internal test data, and not a warranty value.

Product Name	Outer Dimension W×D×H (mm)	Payload W×D×H (mm)	Weight (kg) * Dry-ice is not included	Insulated Box	Outer	Dry ice Filling Amount φ9mm dry-ice	Duration (h) / Ambient temperature 35°C	
							below -70°C	below -75°C
TACPack Di-6	300×300×350	Freeze box for 50 tubes 68×138×49	1.0	EPS	Cardboard	4.3kg	54h	50h
TACPack Di-11	395×330×385	Freeze box for 100 tubes 138×138×49	1.6	EPS	Cardboard	8.0kg	64h	55h
TACPack Di-S	515×320×385	Freeze box for 100 tubes 138×138×49	2.3	EPS	Cardboard	10.0kg	81h	75h
TACPack Di-SL	640×450×515	Freeze box for 100 tubes 138×138×49	5.0	EPS	Cardboard	10.0kg	134h	126h

TACPack® Di Payload Temperature Change at 35°C Ambient Temperature Graph



Infectious Substance Transport Materials

Introduction of Materials for transporting infectious substances



Specimen Transport box

For the Category B Transportation

Third Container (Rigid Outer Container) Specimen Transport Box

Triple packaging is required when transporting Category B specimen. This third container is a container that meets the UN packaging standard P650 and is suitable for UN3373. It can be used when transporting clinical trials specimen combined with a secondary container. We have several absorbent and secondary containers according to the size of the transported goods.

Specimen Transport Box



Product Name	UN3373 Specimen Transport Box
Size (when in use)	200×140×35mm
Composition	10 boxes/set, security label x 10 sheets
Volume of Transported Goods	Approximately 60g/box

*The photos shown here are representative examples of the packaging specification, and are subject to change.

Kaneka PATTHERMO®

Introduction of PATTHERMO®



Kaneka PATTHERMO®

Kaneka PATTHERMO® is a phase-change material that is designed to generate latent heat in the melting temperature range of -70°C to +50°C, using Kaneka's heat storage material compounding technology. Generally, heat storage material literally means "material that stores heat", and Kaneka PATTHERMO® provides large heat energy (latent heat) when it changes between solid and liquid state.

Such materials are generally referred to as Phase-Change Materials (PCM).

In addition, phase-change materials with melting temperatures above 0°C are sometimes called "heat storage materials," while phase-change materials with melting temperatures below 0°C are called "cold storage materials" or "refrigerants".

Kaneka PATTHERMO® can be used in combination with insulated containers made of foamed polystyrene or other materials not only as a logistics material "TACPack®" for pharmaceuticals, medical equipment, reagents, chemicals, precision instruments, and cells, but also for applications other than transportation.

Kaneka PATTHERMO® Handling Precautions

Please check the label on the product or SDS before use.

Kaneka PATTHERMO® P Series

Melting Point(°C)	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C
Grade	P5	P10	P15	P20	P25	P30	P35	P40

Kaneka PATTHERMO® F Series

Melting Point(°C)	3°C	5°C	10°C	15°C	20°C	23°C	25°C	35°C	37°C	
Grade	F3	F5	F10	F15	F20	F23	RF23	F25	F35	F37

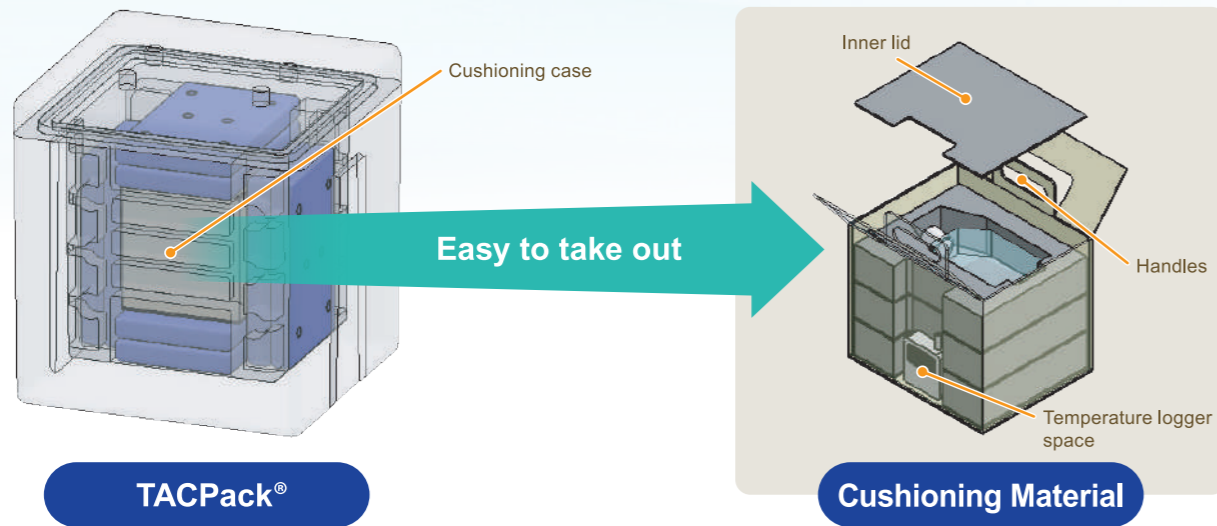
Kaneka PATTHERMO® CV Series

Melting Point(°C)	-2°C	-5°C	-10°C	-20°C	-25°C	-27°C	-50°C	-70°C
Grade	CV-2	CV-5	CV-10	CV-20	CV-25	CV-30	CV-50	CV-70

*The photos shown here are representative examples of the packaging specification, and are subject to change.

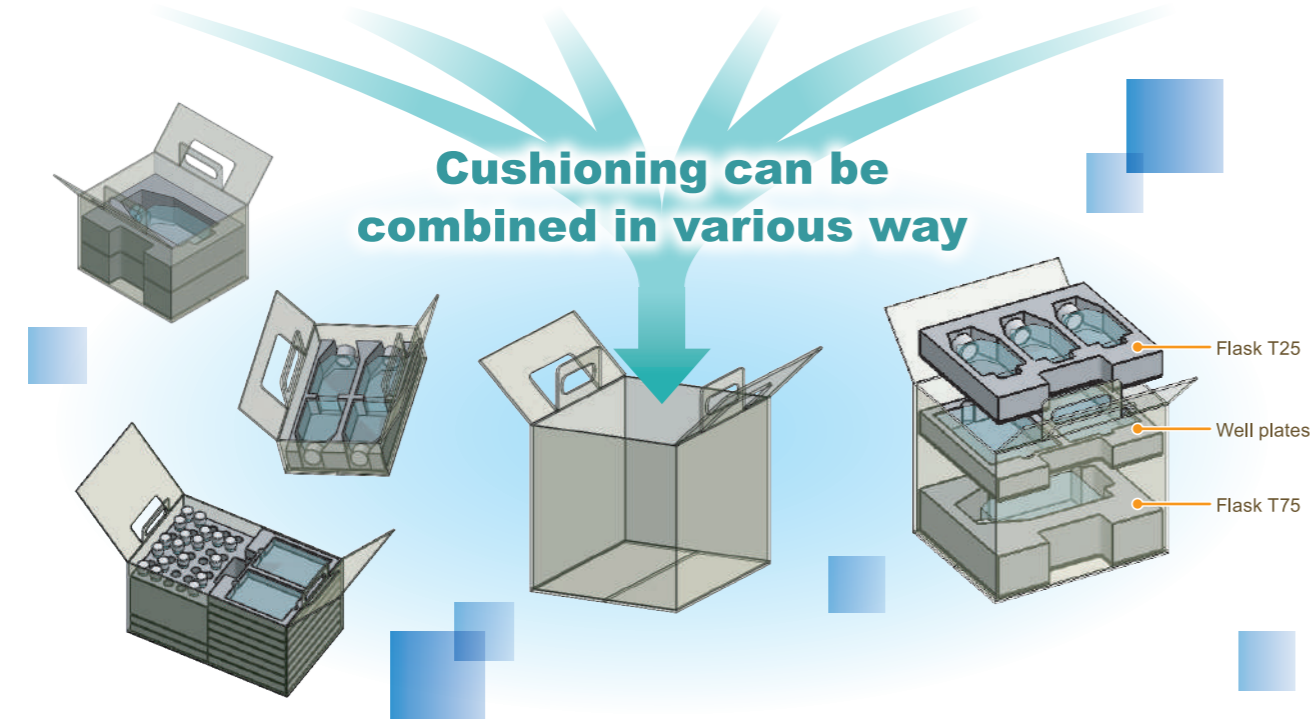
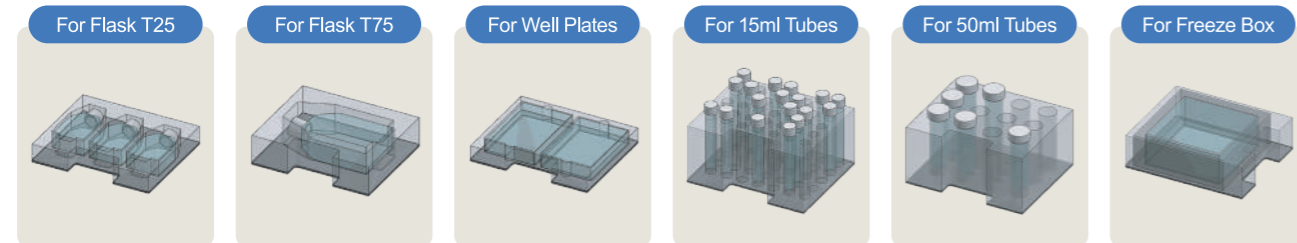
TACPack® Cushioning Material

Introduction of TACPack® Cushioning material



What is TACPack® Cushioning Material?

"TACPack® cushioning material" is an optional part that can be used repeatedly to provide additional support to products that require temperature control and shock and vibration buffering. There is a variation of sizes suitable for goods and it can be easily packed.



We Manufacture Original TACPack® to Meet Your Needs

Introduction of Custom TACPack®

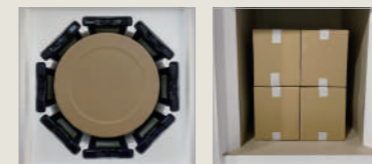
We provide various temperature-controlled packaging solutions through a consistent manufacturing system of insulated boxes and PCMs based on our extensive packaging design know-how.

Design Flow of a Temperature-Controlled Packaging



Example of Original TACPack® Production

Active Pharmaceutical Ingredient (API) Transportation



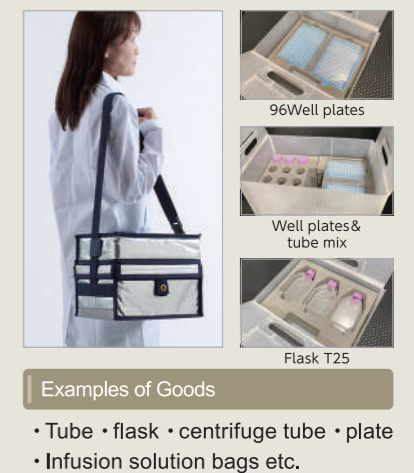
Examples of Goods
• Fiber drum, carton, etc.

Investigational New Drug Transport



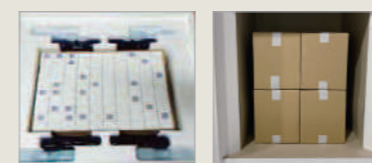
Examples of Goods
• Individual box (white box), vial, etc.

Regenerative Medicine Transport



Examples of Goods
• Tube • flask • centrifuge tube • plate
• Infusion solution bags etc.

Pharmaceutical Drugs Transportation



Examples of Goods
• Vial carton, carton, etc.

Vaccine Transport



Examples of Goods
• Vials etc.

International Transportation



*The photos shown here are representative examples of the packaging specification, and are subject to change.

Company Profile

Company Name	Tamai Kasei Co., Ltd.								
Company established	May 1989								
Capital	50 million JPY								
Representative	Keiji Sato, President and Representative Director								
Business Lines	<ul style="list-style-type: none">• Manufacturing and sale of expanded polystyrene boxes for agricultural and marine products, etc.• Development and manufacturing of expanded polystyrene boxes• Molding and sale of expanded polystyrene for civil engineering, architecture, and industrial applications• Manufacturing and sale of various cushioning materials• Development, manufacturing, and sale of various packaging materials• Production and sale of Kaneka PATTHERMO®• Manufacturing and sale of TACPack® (temperature-controlled packaging)								
Accounting Period	End of March								
Sales Office	<table><tr><td>Sales Office Headquarters</td><td>Second Factory</td></tr><tr><td>3-524-9 Zenibako, Otaru City, Hokkaido</td><td>3-521-4 Zenibako, Otaru City, Hokkaido</td></tr><tr><td>TEL: 0134-62-1100</td><td>TEL: 0134-62-2423</td></tr><tr><td>FAX: 0134-62-0777</td><td>FAX: 0134-62-2426</td></tr></table>	Sales Office Headquarters	Second Factory	3-524-9 Zenibako, Otaru City, Hokkaido	3-521-4 Zenibako, Otaru City, Hokkaido	TEL: 0134-62-1100	TEL: 0134-62-2423	FAX: 0134-62-0777	FAX: 0134-62-2426
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TEL: 0134-62-1100	TEL: 0134-62-2423								
FAX: 0134-62-0777	FAX: 0134-62-2426								
Business Days and Hours	Monday to Friday (excluding Saturdays, Sundays, public holidays, holidays designated by our company, summer holidays, year-end and New Year holidays) 8: 30-17: 30								



Catalog can be downloaded from our website

<https://tamai-kasei.co.jp>

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