RoHS
RoHS指令 10物質適合

Heat Damage Prevention & Plant Maintenance

Thermal Management Catalog

ZT THERMOPROTEC®
PROTECTIVE TUBING
HEAT REFLECTION TYPE / INSULATION TYPE / SPATTER RESISTANT TYPE

ZIPPERTUBING(JAPAN), LTD.

ZT Thermoprotec® / Heat reflection and insulation / Spater Resistance

Thermal Management Catalog

ZT Thermoprotec®

What's ZT Thermoprotec?

ZT Thermoprotec is high-performance heat reflection developed by Zippertubing worldwide group.

Configuration

Aluminum layer which has high heat reflectivity is adhered to the glass fabric of base material by heat resistant adhesive.

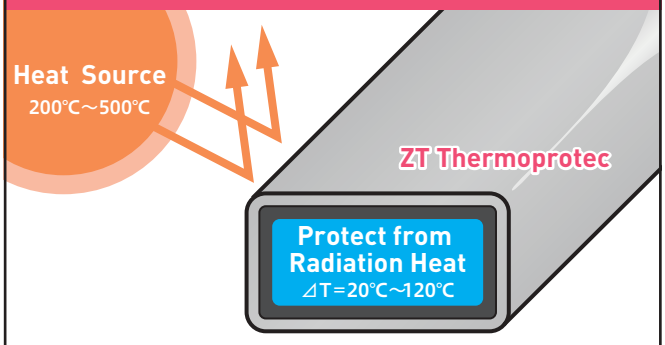
Process

We can provide custom design by multiple materials such as ZT thermoprotec, other heat insulation, reinforcement, and covering.

Usage

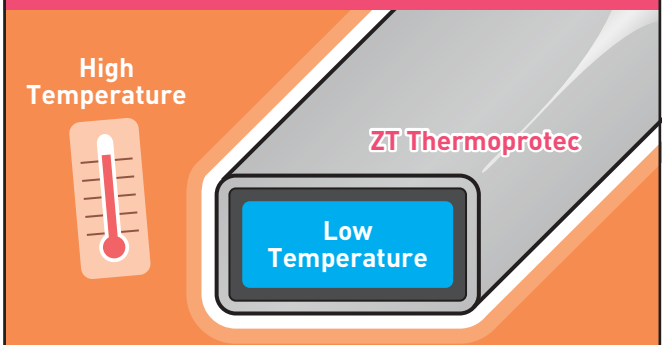
ZT Thermoprotec is effective as heat managements for heat shields and insulation, retaining temperature, preventing burn injury, and so on.

Heat reflection



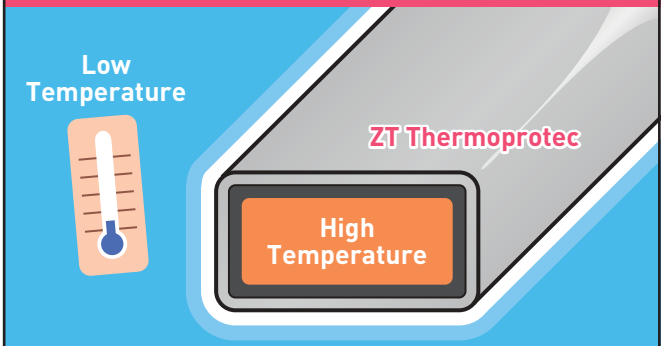
Relieve temperature increaseby the radiation heat source.

Heat Insulation



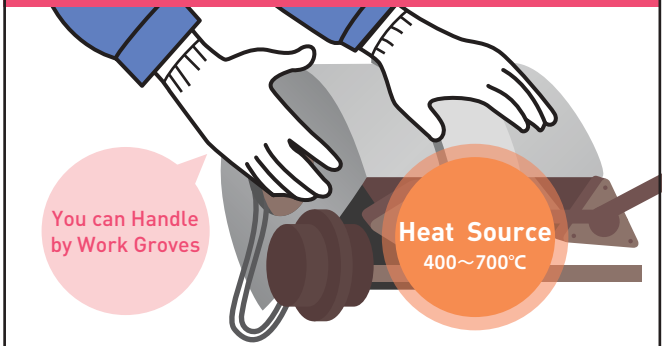
Relieve tempeture increase of the object at high temperature.

Retain Temperature



Relieve temperature decrease of the object at low temperature.

Prevent Burn Injury



Cover prevents from burn injury

Sheet Material

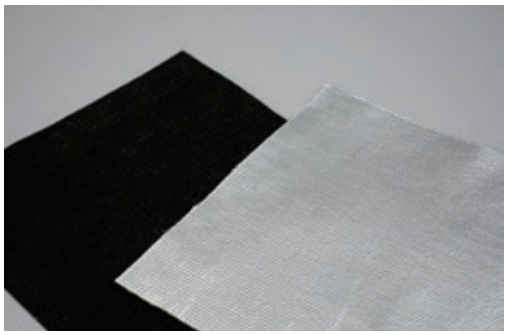
Part No.	SAM-1000	HRZ-180	HRX-180	ISM-3025	ISM-305
Upper Temperature Limit	240℃	180℃	180℃	200℃	200℃
Heart Shield Material	Aluminum foil	Double-side aluminized PET	Double-side aluminized PET	Aluminum foil	Aluminum foil
Insulation Material	–	–	–	Felt	Felt
Limiting Oxygen Index	67	33	–	65	52
Note	Aluminum foil type	Aluminized PET type	Thin type HRZ-180	With felt layer	Thick type ISM-3025

*Typical value

Sheet Property

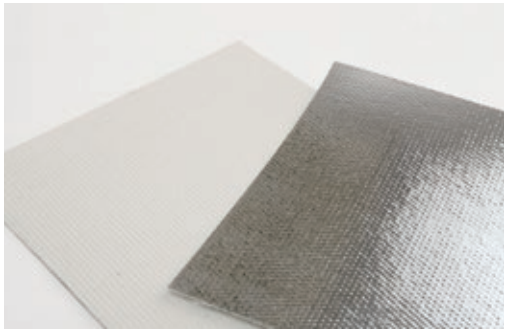
Part No.	SAM-1000	HRZ-180	HRX-180	ISM-3025	ISM-305
Heat Resistance	◎	○	○	○	○
Heat Reflection	◎	◎	◎	◎	◎
Heat Insulation	–	–	–	○	◎
Durability	○	◎	○	○	○
Flame Retardance	◎	○	○	◎	◎
Flexibility	○	○	◎	◎	○

SAM-1000



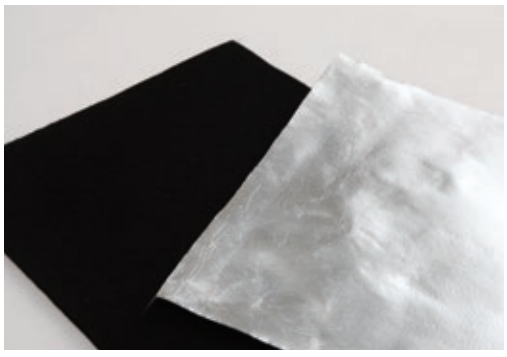
Specification		
	Layer	Material
1	Heat reflection layer	Aluminum foil
2	Adhesive layer	240℃ Heat-resistant silicone adhesive
3	Fabric layer	Silicone coated glass fabric

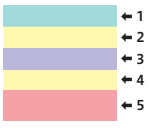
HRZ-180 ／ HRX-180



Specification		
	Layer	Material
1	Heat reflection layer	Double-sided aluminized PET
2	Adhesive layer	180℃ Heat-resistant urethane adhesive
3	Fabric layer	Urethane coated glass fabric

ISM-3025 ／ ISM-305

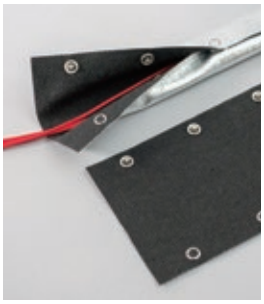




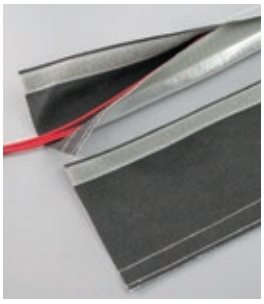
Specification		
	Layer	Material
1	Heat reflection layer	Aluminum foil
2	Adhesive layer	240℃ Heat-resistant silicone adhesive
3	Fabric layer	Silicone coated glass fabric
4	Adhesive layer	240℃ Heat-resistant silicone adhesive
5	Insulation layer	Felt

Protective Tubing (Heat reflection type and insulation type)

Snap Type

Snap Type					
Part No.		OSAM ＊＊＊	OHRZ ＊＊＊	OISM25T ＊＊＊	OISM50T ＊＊＊
Color		Silver			
Sheet	Material	Aluminum Foil Fiberglass Cloth	Double-sided aluminized PET Fiberglass Cloth	Aluminum Foil Fiberglass Cloth Felt	
	Coating	Slicone	Urethane	–	–
	Thickness*2	0.8mm	0.8mm	2.3mm	4.4mm
Closure	Material	Stainless			
Operating Temperature (Sheet)		240℃	180℃	200℃	
Diameter (φ)		15, 20, 25, 30, 40, 50, 70, 100			
Standard Length		25m		15m	
Note		Heat Reflection, Heat Resistance	Heat Reflection	Heat Reflection, Insulation	Heat Reflection, Insulation

Hook and Loop fastener Type

Hook and Loop fastener Type					
Part No.		MSAM ＊＊＊	MHRZ ＊＊＊	MISM25T ＊＊＊	MISM50T ＊＊＊
Color		Silver			
Sheet	Material	Aluminum Foil Fiberglass Cloth	Double-sided aluminized PET Fiberglass Cloth	Aluminum Foil Fiberglass Cloth Felt	
	Coating	Slicone	Urethane	–	–
	Thickness*2	0.8mm	0.8mm	2.3mm	4.4mm
Closure	Material	Polyester			
Operating Temperature (Sheet)		240℃	180℃	200℃	
Diameter (φ)		15, 20, 25, 30, 40, 50, 70, 100			
Standard Length		25m		15m	
Note		Heat Reflection, Heat Resistance	Heat Reflection	Heat Reflection, Insulation	Heat Reflection, Insulation

*1 A size indicator, represented by ＊＊＊, is added after the product number. *2 Typical value

Protective Tubing (Spatter resistant type)

Snap Type

Snap Type				
Part No.		OTO ＊＊＊	OTP-R＊＊＊	OTP-R(S) ＊＊＊
Color		Gray		
Sheet	Material	Fiberglass Fabric /Silicone	Aramid fiber blend / One-sided silicone facing	
Closure	Material	Nylon		Stainless Steel
Operating Temperature (Sheet)		-20℃～150℃	-25℃～150℃	
Diameter (φ)		10, 15, 20, 25, 30, 40, 50, 70, 100		20, 25, 30,40, 50, 70, 100
Standard Length		Approx. 30m	10m	
Note		Spater Resistance		

Hook and Loop fastener Type

Hook and Loop fastener Type				
Part No.		MTK ＊＊＊	MTKA ＊＊＊	MTKG(G) ＊＊＊
Color		Gray	Black	Gray
Sheet	Material	Aramid Fiber / Special Coating	Aramid Fiber / FR Coating	
Closure	Material	Polyester		
Operating Temperature (Sheet)		-15℃～150℃		
Diameter (φ)		15, 20, 25, 30, 40, 50, 70, 100		
Standard Length		Approx. 50m	50m	
Note		Spater Resistance	Spater Resistance, Flame Retardance	

Sheet Property

Item Name	OTO Sheet	OTP-R Sheet	MTK Sheet	MTKA Sheet MTKG(G) Sheet
Thickness*2	0.33mm	0.75mm	0.36mm	0.37mm
Spatter Resistance	◎	◎	◎	◎
Slag Resistance	○	◎	×	×
Abrasion Resistance	△	◎	○	○
High-Temperature Resistance	◎	○	○	○
Flexibility	◎	△	◎	◎
Limiting Oxygen Index	–	34	30	40
Flame Retardance	Equivalent spec as UL94 V-0 (not certified)	–	–	Equivalent spec as UL94 V-0 (not certified)
Use of Silicone	Yes	Yes	No	No

*1 A size indicator, represented by ＊＊＊, is added after the product number. *2 Typical value

Functional Protection Cover

Exhaust Pipe Cover

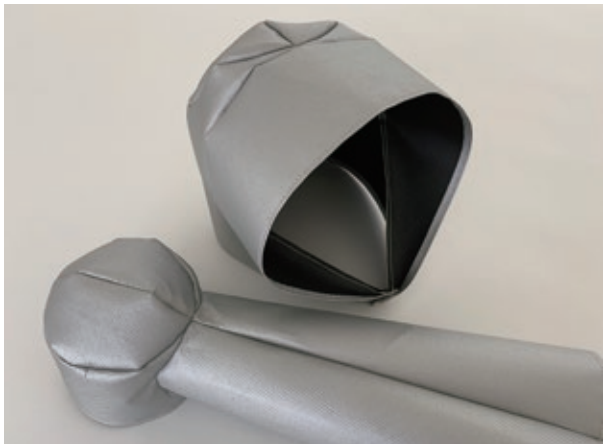
Covers to insulate high temperature area.
Maximum temperature : 700℃
Keep cover outside under 200℃ with insulation.

Connector Cover

Heat protection cover for molded resin.
Heat reflection cover.
Effective as retaining temperature for hose cover.

Robot Cover

Protect robots from weld spatters and abrasions.
Designed to follow the robotic movement.
Various materials fulfill your target function.



Custom Design

Various materials are available to meet your environment and application.

Material Examples

Heat Shields	ZT Thermoprotec, SAM-1000, HRZ-180, HRX-180, ISM-3025, ISM-305
Heat Insulation	Glass fiber mat, Silica fiber mat, Alumina fibre blanket, Open cell foam, Closed cell foam, Felt, Non-woven cloth
Spatter Resistant Fabric	Aramid fiber cloth, Glass fiber cloth
Covering and Reinforcement	Glass fiber cloth, Silica fiber cloth, Alumina fiber cloth, Stainless mesh
Closure Options	Nyron snap, Stainless snap, Hook and Loop fastener, Buckle, Eyelet
Note	Various materials are available depending on the operating environment and application requirements.

Development Process

Custom Product Inquiry

STEP 1 Survey
We conduct a hearing to understand your requirements regarding the desired product form.
*On-site inspection and sample evaluation will be performed as necessary.

STEP 2 Preproduction
We create the initial prototype based on drawing data (such as 3D models) or an actual sample.

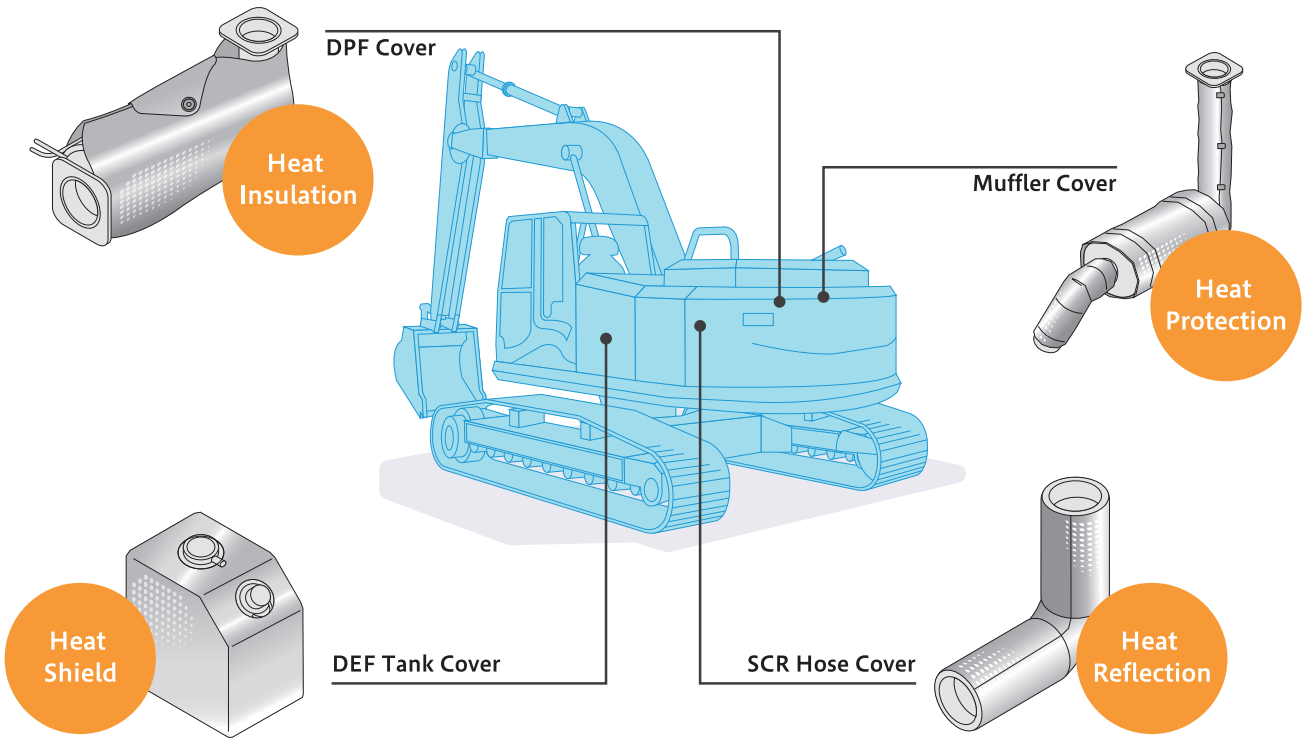
STEP 3 Testing
The initial prototype is tested and fitted to the actual product for confirmation.

STEP 4 Revision
We identify any discrepancies with your requirements and make adjustments.
*Corrections will be repeated as needed.

STEP 5 Finish
The final product in the requested form is completed and delivered.

Delivery

Example



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ISO9001 & ISO14001 Certification Acquired

ZIPPER TUBING(JAPAN) Ltd. is a company certified under the international standard ISO9001 for quality management systems and ISO14001 for environmental management systems.

■Certified Standards	ISO9001:2015+Amd 1:2024　ISO14001:2015+Amd 1:2024
■Accreditation Body	JAB
■Scope of audit	Design and Manufacture of Zippertube Products, and EMC S Suppression products,Thermal Management Covers.
■Business Locations	Kobe Factory, Saitama Factory, Vanguard (Japan)Co., Ltd.
■Certification Numbers	ISAQ1163, ISAES537

ISO 9001
ISO 14001
CERTIFIED
MS
CM034

Issued in June 2026, Catalog No. G-04-03(E)

Specifications subject to change without notice. All statements and technical information contained herein are based on tests we believe to be reliable, but the accuracy or completeness is not guaranteed under all circumstances. Before using ZTJ products, the user shall determine suitability for the intended use, and assumes all responsibility for improper selection.