

Heat Damage Prevention & Plant Maintenance

Thermal Management Catalog

ZT THERMOPROTEC®

PROTECTIVE TUBING

HEAT REFLECTION TYPE / INSULATION TYPE / SPATTER RESISTANT TYPE





Thermal Management Catalog

ZT Thermoprotec®

What's ZT Thermoprotec?

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

Configuration

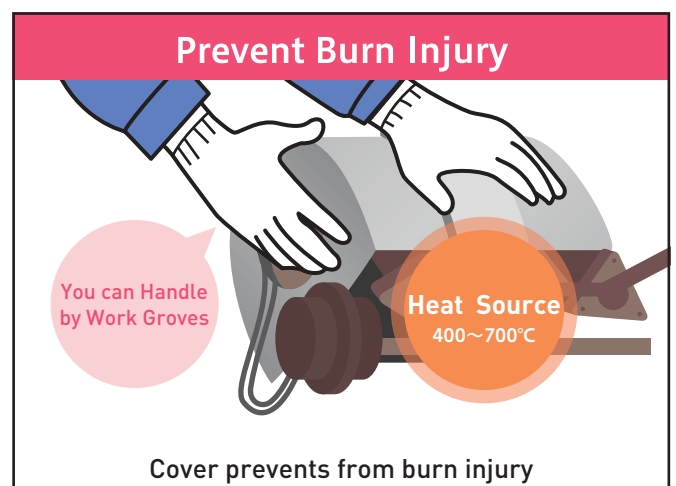
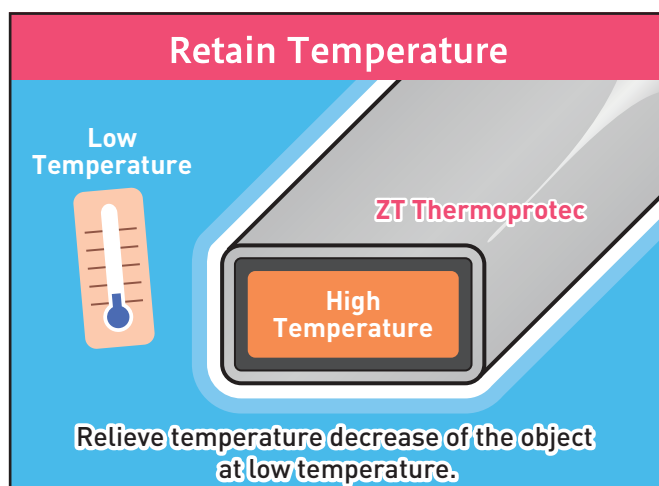
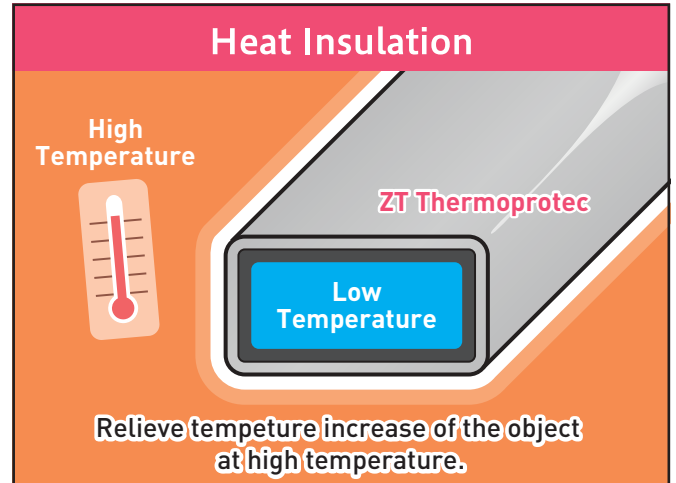
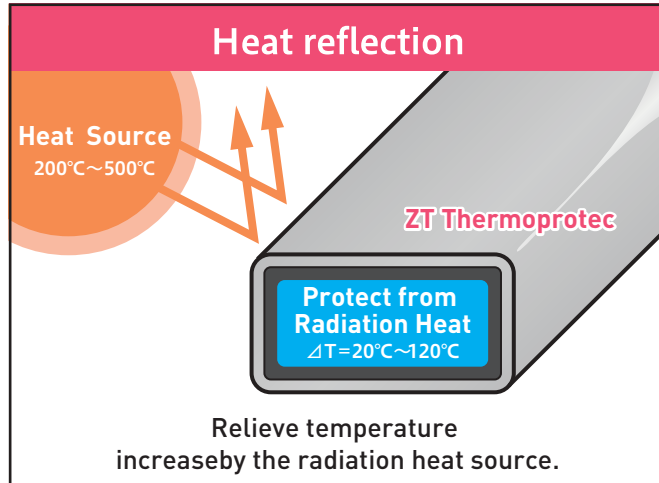
Aluminum layer which has high heat reflectivity is adhered to the glass fabric of base material by heat resistant adhesive.

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.



Sheet Material

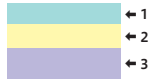
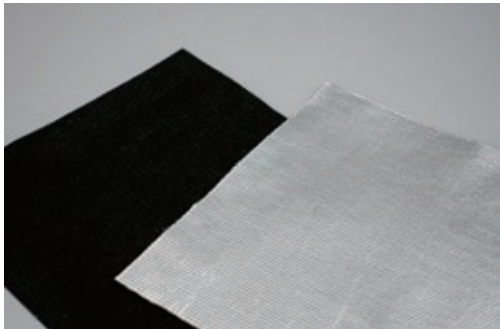
Part No.	SAM-1000	HRZ-180	HRX-180	ISM-3025	ISM-305
Upper Temperature Limit	240°C	180°C	180°C	200°C	200°C
Heart Shield Material	Aluminum foil	Double-side aluminized PET	Double-side aluminized PET	Aluminum foil	Aluminum foil
Insulation Material	-	-	-	Felt	Felt
Limiting Oxygen Index	67	33	-	65	52
Note	Aluminum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

*Typical value

Sheet Property

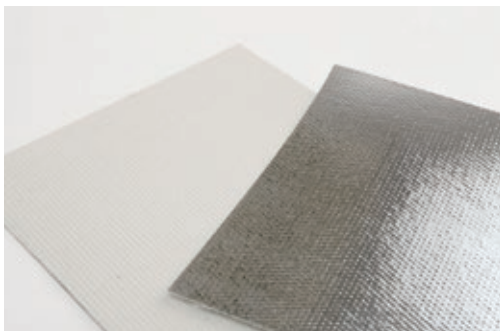
Part No.	SAM-1000	HRZ-180	HRX-180	ISM-3025	ISM-305
Heat Resistance	◎	○	○	○	○
Heat Reflection	◎	◎	◎	◎	◎
Heat Insulation	-	-	-	○	◎
Durability	○	◎	○	○	○
Flame Retardance	◎	○	○	◎	◎
Flexibility	○	○	◎	◎	○

SAM-1000



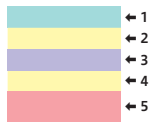
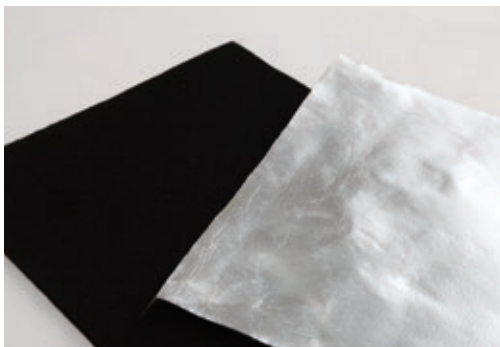
Specification		
	Layer	Material
1	Heat reflection layer	Aluminum foil
2	Adhesive layer	240°C Heat-resistant silicone adhesive
3	Fabric layer	Silicone coated glass fabric

HRZ-180 / HRX-180



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

ISM-3025 / ISM-305

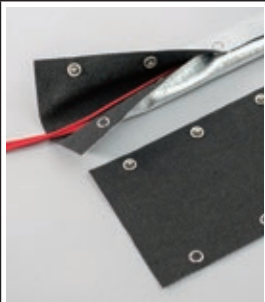





Specification		
	Layer	Material
1	Heat reflection layer	Aluminum foil
2	Adhesive layer	240°C Heat-resistant silicone adhesive
3	Fabric layer	Silicone coated glass fabric
4	Adhesive layer	240°C Heat-resistant silicone adhesive
5	Insulation layer	Felt

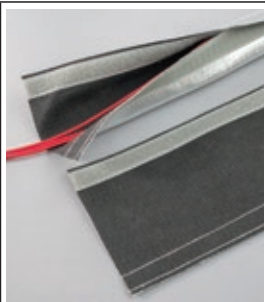



Protective Tubing (Heat reflection type and insulation type)



Snap Type

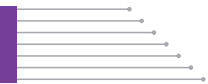
Snap Type					
Part No.		OSAM ***	OHRZ ***	OISM25T ***	OISM50T ***
Color		Silver			
Sheet	Material	Aluminum Foil Fiberglass Cloth	Double-sided aluminized PET Fiberglass Cloth	Aluminum Foil Fiberglass Cloth Felt	
	Coating	Silicone	Urethane	-	-
	Thickness*2	0.8mm	0.8mm	2.3mm	4.4mm
Closure	Material	Stainless			
Operating Temperature (Sheet)		240°C	180°C	200°C	
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	Silicone	Urethane	-	-
	Thickness*2	0.8mm	0.8mm	2.3mm	4.4mm
Closure	Material	Polyester			
Operating Temperature (Sheet)		240°C	180°C	200°C	
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


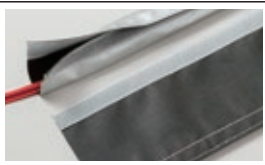


Protective Tubing (Spatter resistant type)



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°C~150°C	-25°C~150°C	
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

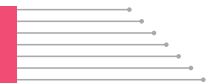
Hook and Loop fastener Type					
Part No.		MTK ***	MTKK ***	MTKA ***	MTKG(G) ***
Color		Gray	Gray / Black	Black	Gray
Sheet	Material	Aramid Fiber / Special Coating		Aramid Fiber / FR Coating	
Closure	Material	Polyester			
Operating Temperature (Sheet)		-15°C~150°C			
Diameter (φ)		15, 20, 25, 30, 40,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

Sheet Property

Item Name	OTO Sheet	OTP-R Sheet	MTK Sheet	MTKK Sheet	MTKA Sheet MTKG(G) Sheet
Thickness*2	0.33mm	0.75mm	0.36mm	0.35mm	0.37mm
Spatter Resistance	◎	◎	◎	◎	◎
Slag Resistance	○	◎	×	×	×
Abrasion Resistance	△	◎	○	◎	○
High-Temperature Resistance	◎	○	○	○	○
Flexibility	◎	△	◎	○	◎
Limiting Oxygen Index	-	34	30	29	40
Flame Retardance	Equivalent spec as UL94 V-0 (not certified)	-	-	Equivalent spec as UL94 V-0 (not certified)	Equivalent spec as UL94 V-0 (not certified)
Use of Silicone	Yes	Yes	No	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°C
Keep cover outside under 200°C with insulation.



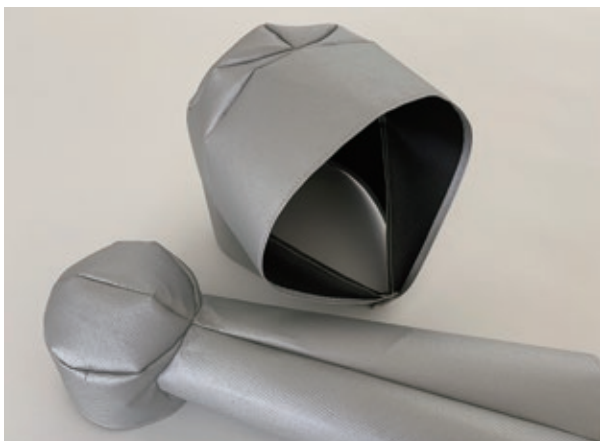
Connector Cover

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.



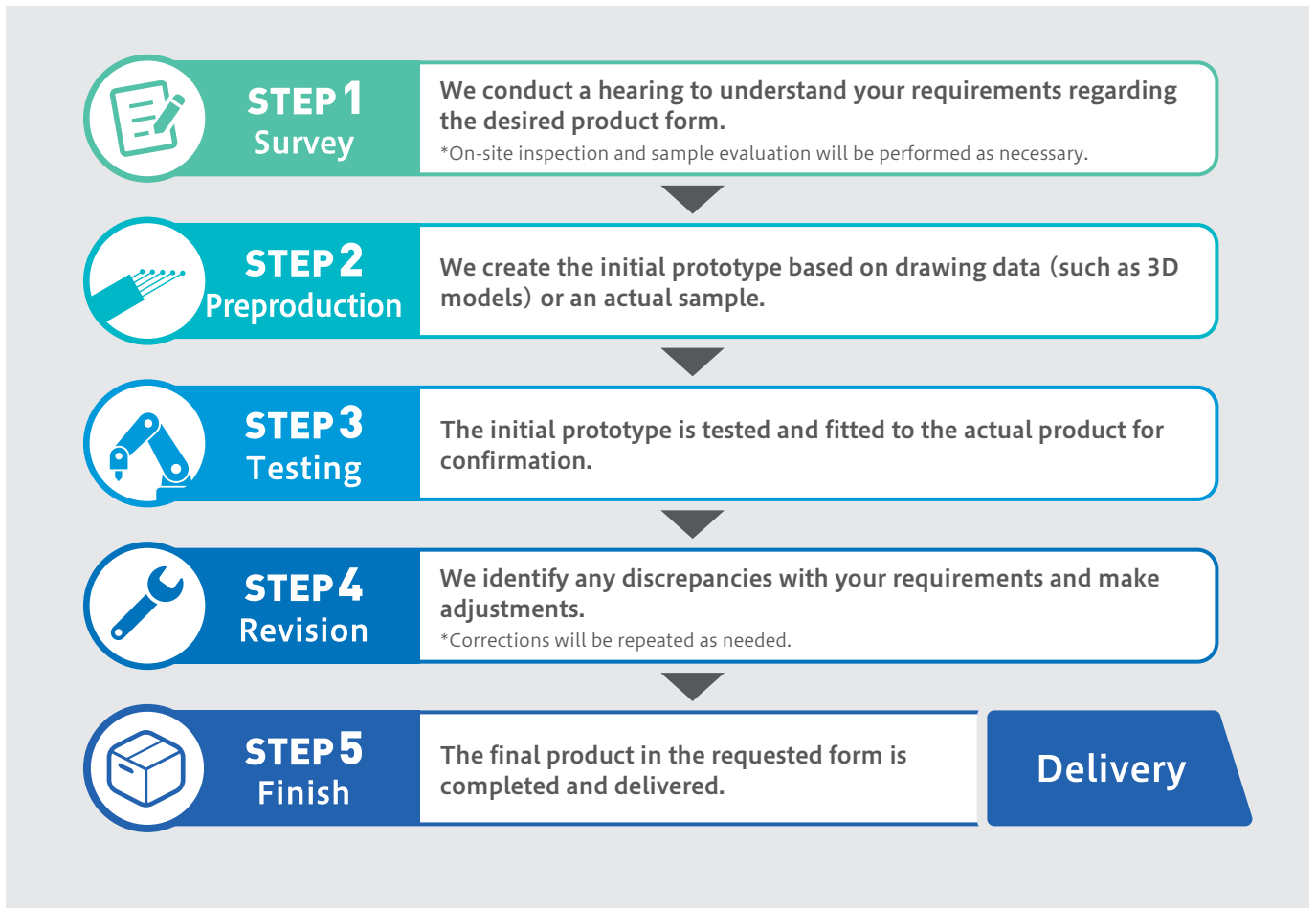
Custom Design

Various materials are available to meet your environment and application.

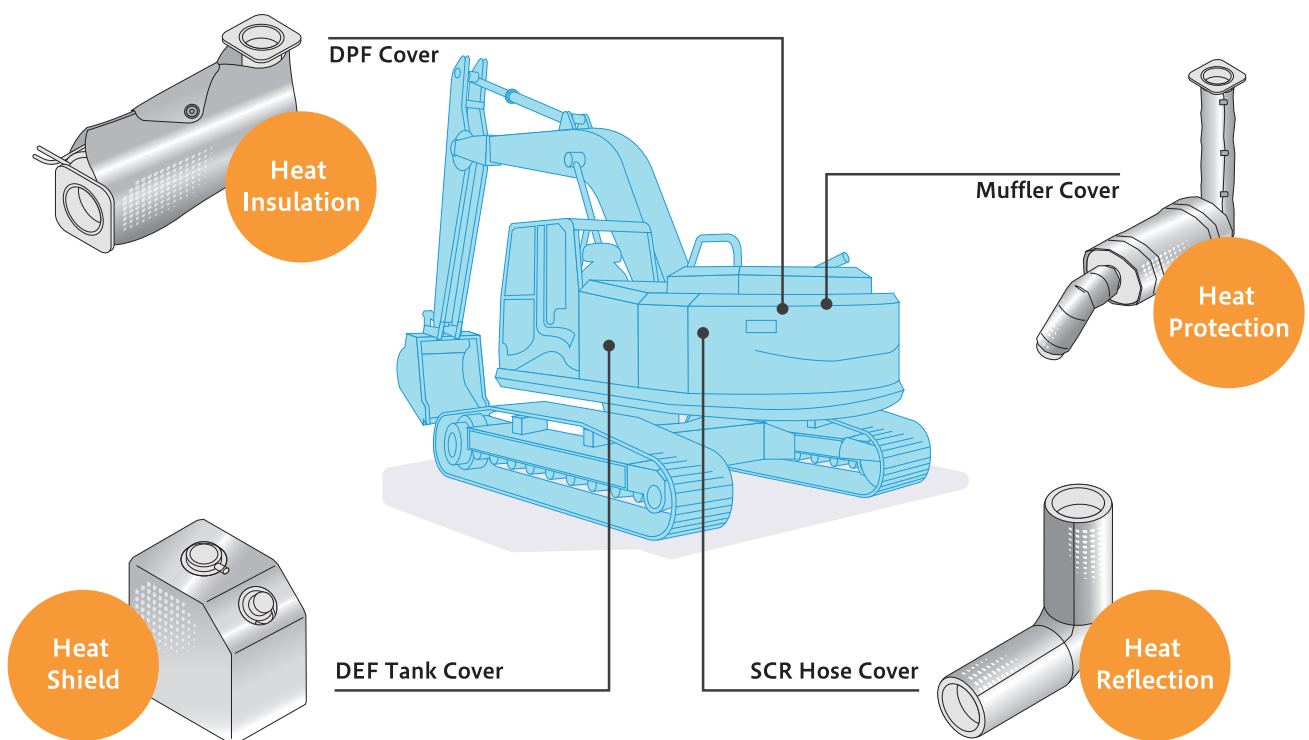


Material Examples

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	Nylon snap, Stainless snap, Hook and Loop fastener, Buckle, Eyelet
Note	Various materials are available depending on the operating environment and application requirements.



Example



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Kobe Factory

6-18-2, Mitsugaoka, Kobe Nishi-ku, Hyogo,
651-2228, Japan

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



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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.