

Ref No. 15-F-022

**Heat Resisting Duct  
(HT-2000)  
Product Introduction**

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Prepared by Technical Center

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## 1. Over View

Heat Resisting Duct HT-2000 is developed with our manufacturing technology and material development to the pursue of 「Heat resistance」・「Durability」・「Non-flammable」 (Patent No. 3284085)

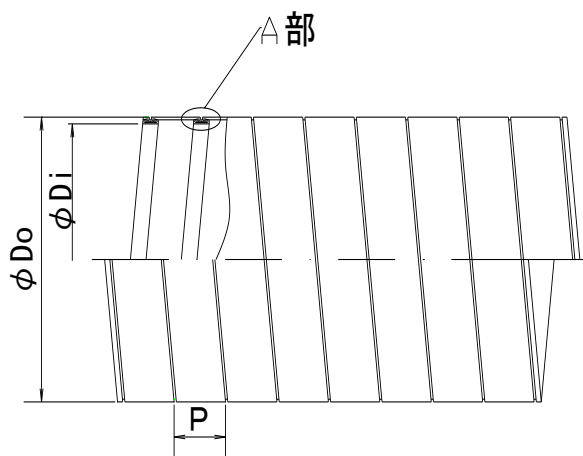
While keeping the same external shape, easy cutting feature and flexibility of our conventional product (MD25), it has heat resistance over 4 times higher. It can be used at any application by using high performance silicon coating glass cloth (more durability) on surface, glass fiber band inside, and 3-layer structural SUS mesh (noncombustible material) on the back side.

## 2. Appearance shape and material, a structure diagram

【product appearance photo】



【Product Structure schematic】



### 3. Feature of silicon coating glass cloth

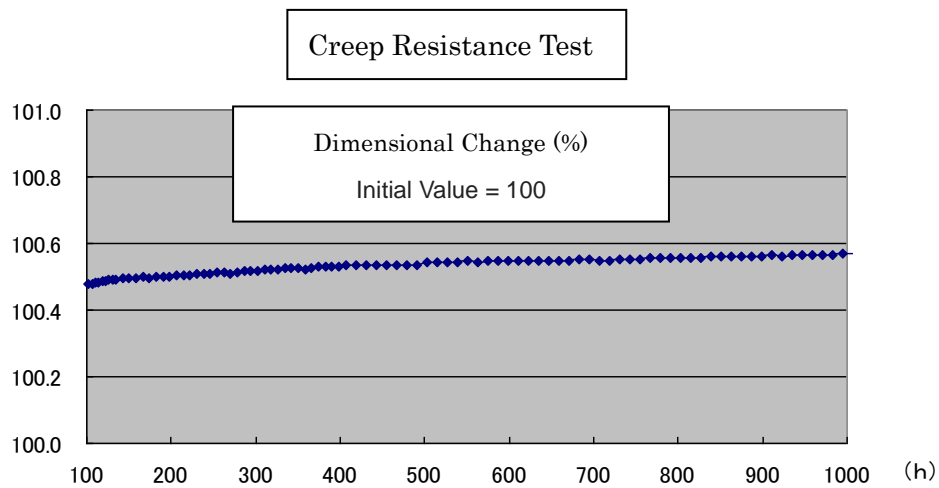
#### ■ Excellent Mechanical Performance

Specification as below..... (\*1)

Items	Unit	Silicon coating glass cloth	remarks
Specific Gravity	—	1.5	
Fineness	dtex	1350	
Tensile strength	N/30mm	2100	
Tearing force	N	100	JIS K 7128-1
Young's modulus	MPa	100	
Elongation at break	%	5.0	
Dry heat shrinkage	%	0	(200°C/392F×24h)

#### ■ Excellent dimensional stability

Due to low Creep Resistance, excellent stability for against long term load.



■ Excellent chemical resistance

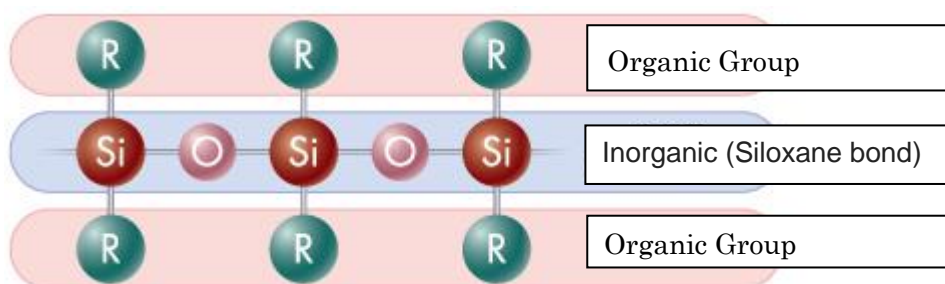
Resistant to various chemicals

The Name of Chemical		Test condition			resist retention	Result
		Density	Temp	Time		
		%	°C/F	Hour	%	
Acid	Sulfuric acid	1	20/68	24	71	×
	hydrochloric acid	1	20/68	24	72	×
	nitric acid	30	20/68	100	100	○
	Chromic acid	100	20/68	24	100	○
	nitric acid	30	20/68	100	100	○
Alkaline	ammonia	100	20/68	24	100	○
	Sodium hydroxide	40	20/68	100	100	○
	Potassium hydroxide	10	20/68	24	100	○
Sodium	Sodium chloride	30	100/212	24	100	○
Organic solvent	acetone	100	20/68	24	100	○
	toluene	100	20/68	24	82	×
	Carbon tetrachloride	100	20/68	24	81	×
	Ethyl alcohol	100	20/68	24	100	○
	Methyl ethyl ketone	100	20/68	24	100	○
	Trichloroethylene	100	20/68	24	100	○
	ethylene glycol	100	20/68	24	100	○
Fuel	Mineral oil	100	70/158	24	100	○
	gasoline	100	20/68	24	90	△
	Kerosene	100	20/68	24	100	○
	Heavy oil	100	20/68	24	100	○

○ : Excellent    △ : Good if its low density    × : Do not use

In addition, chemical data is not intended to guarantee the chemical resistance.

Test in the particular use of condition before use.



### What is the silicone-coated glass cloth?

Silicone is high-performance materials with combined properties of both inorganic and organic. It is structured basically Siloxane bond (Si-O-Si) alternately linked of silicon and oxygen in the main based structure, and the organic group linked structure. Siloxane bond has the same structure as the inorganic material such as glass or quartz, and it has large binding energy than the C-C bond or C-O bond that is the main chain of the organic polymer. Therefore, bond will not be broken even at high temperature. That is why it has chemical stability, heat resistance, and excellent weather resistance. By impregnating on both side of the glass fiber, it will have strength from feature of silicon and tensile strength from feature of glass fiber. There are various characteristics such as oil, resin, liquid rubber and so on, and used in various field such as Electronics, Transport aircraft, Chemical, Textile, Food, cosmetics, and Architecture.....(\*2)

### 4. Product physical property

Items	Specification	Remarks
thickness	2.10(mm) 1/12 inch	
Apparent density	4.23(g/cm <sup>3</sup> )	Except reinforcing core (SUS plate)
Max. Temp	1000°C / 1832F	JIS C 8411 (see attached)
Application Temp	-20 ~450°C / -4~842F	
Thermal conductivity (20°C)	0.087 (W/m K)	ASTM 1530-04 (see attached)
Moisture absorptivity (100hr, 25°C, 95%RH)	5% increased	
Wear resistance (1000 times)	0.451g decreased	JIS L 1096 (see attached)
appearance	Gray	

## 5. Dimension

Dimensions as blow

Size	ID Nominal	ID	OD	Pith	Pressure (normal temp)	Allowable bending radius	Idea Weight
	(IN)	(mm)	(mm)	(mm)	MPa 以下	mm 以上	(g / m)
φ 75	3	76.0	83.0	20	0.010	160	1020
φ 90	3.5	91.5	98.5	23	0.010	190	1130
φ 100	4	101.5	108.5	23	0.010	210	1300
φ 125	5	126.5	133.5	26	0.010	250	1500
φ 150	6	152.0	159.0	26	0.010	280	1800
φ 200	8	202.0	209.0	30	0.010	380	2250
φ 250	10	253.0	260.0	30	0.010	510	2830
φ 300	12	304.0	311.0	30	0.010	610	3380

## 6. Sample Application



【Exhausting Gas】



【Hot Air Generator】