PROPERTIES

Properties		Unit	ULTRATHERM	ASTM C1676 Microporous	ASTM C1728 Aerogel
Maximum usage temperature		℃ (℉)	**950 (1,742)**	1,000 (1,832)	649 (1,200)
Density (Max)	Pipe cover	kg/m³ (lb/ft³)	**250 ± 15 (15.6 ± 0.9)**	300~400 (18.7~25.0)	160~240 (10.0~15.0)
	Board	kg/m³ (lb/ft³)	**225 ± 15 (14.0 ± 0.9)**		
Compressive strength at 10% deformation (Min)		kPa (psi)	**Min. 450 (Min. 65.3)**	Min. 140 (20.3)	Min. 20.7 (3.0)
Thermal conductivity (Max)	100℃ (212℉)	W/mK (Btu-in/h•ft²℉)	**0.022 (0.153)**	0.030 (0.208)	0.023 (0.159)
	400℃ (752℉)	W/mK (Btu-in/h•ft²℉)	**0.029 (0.201)**	0.039 (0.270)	0.046 (0.319)
	600℃ (1112℉)	W/mK (Btu-in/h•ft²℉)	**0.035 (0.243)**	0.047 (0.333)	0.089 (0.617)

APPLICATIONS

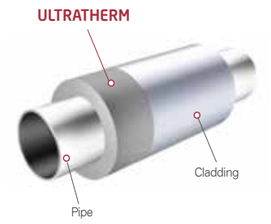
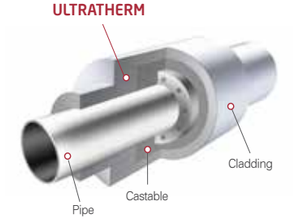
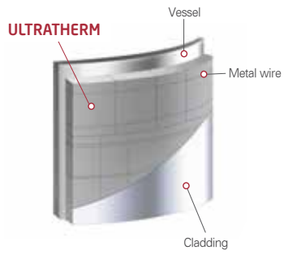
Power plant
- Boiler, Turbine
- Equipment, Pipe

Petrochemical
- NCC, BTX
- Equipment, Pipe

Oil refinery
- CDU, FOC, SRU
- Equipment, Pipe

Others
- Aerospace, Defense Industry, Iron, Steel, Paper, Oil manufacturing, Milling, Pharmaceuticals, Ceramics, Architecture, Shipbuilding, Furnace and other high temperature facilities

INSTALLATIONS

PIPE	Flange	Vessel
		

KD ONE
http://www.kdone.net

4F KOAMI Bldg., 22, Gukhoe-daero 76-gil, Yeongdeungpo-gu, Seoul, Korea **TEL** 82-2-559-8181 **FAX** 82-2-552-6224

COOL PERFORMANCE AT HOT TEMPERATURE

ULTRATHERM

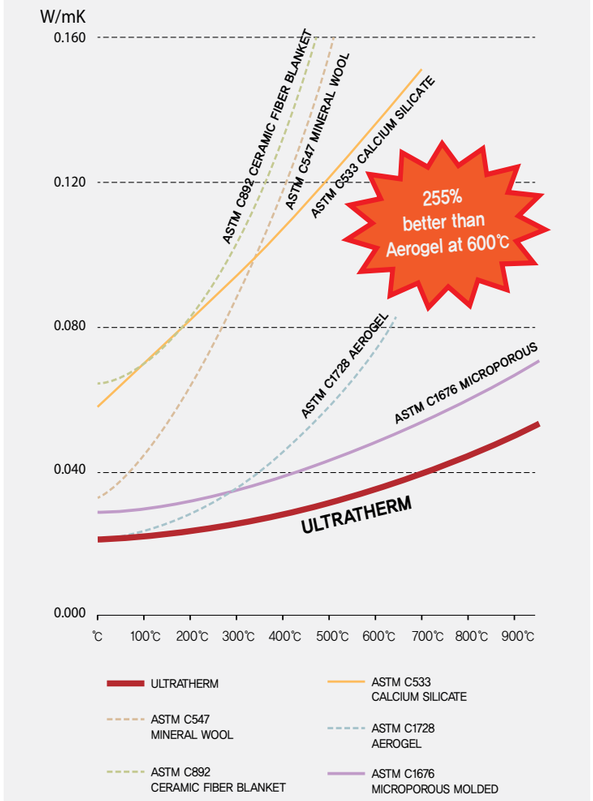
HIGH EFFICIENCY MICROPOROUS INSULATION

KD ONE

ULTRATHERM

HIGH EFFICIENCY MICROPOROUS INSULATION

ULTRATHERM is a MICROPOROUS insulation with an outstanding thermal conductivity and high efficiency. Especially its thermal conductivity is remarkably stable over a wide range of temperatures while thermal conductivity of conventional insulation increases dramatically as temperature gets higher.



※ What is Microporous insulation?

Material in the form of compacted powder or fibers with an average interconnecting pore size comparable to or below the mean free path of air molecules at standard atmospheric pressure. Microporous insulation may contain opacifiers to reduce the amount of radiant heat transmitted.

FEATURES OF ULTARTHERM

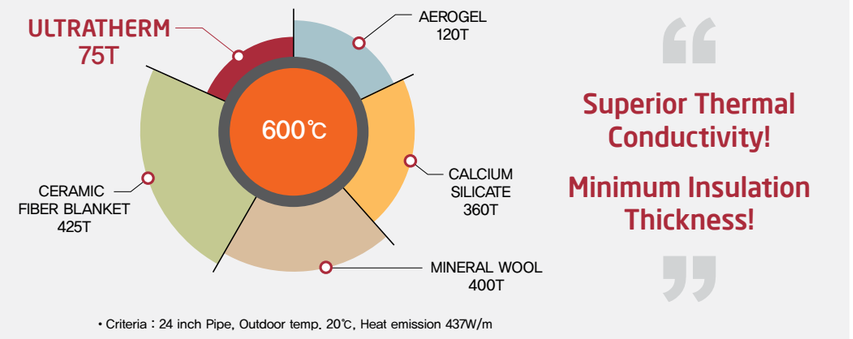
ULTRATHERM has a very **low thermal conductivity** by characteristics of nanoparticle fumed silica which forms a lot of pores and opacifiers to block radiant heat.

ULTRATHERM manufactured without binder is **available to use at high temperature.**

ULTRATHERM shows better compressive strength compared with other Microporous insulation even in lower density by our **unique technology.**

ULTRATHERM can be provided with surface or complete **water repellency** on customer's request.

THICKNESS COMPARISON



Superior Thermal Conductivity!

Minimum Insulation Thickness!

BENEFITS

ULTRA-LOW THERMAL CONDUCTIVITY

- Possible to apply minimum insulation thickness due to very low thermal conductivity
- Decrease installation SPACE, equipment investment and construction period

AVAILABLE AT HIGH TEMPERATURE

- Maintain stable and outstanding performance at high temperature(UP TO 950°C)

OUTSTANDING LIGHTWEIGHT

- 40% lighter than 'ASTM C1676 Microporous Thermal Insulation'
- EASY TO HANDLE, weight decrease in facility after construction

EXCELLENT DURABILITY

- Water repellency processed ULTRATHERM has a stable performance regardless of moisture
- ULTRATHERM, GRANULAR insulation is easier to maintain/repair than FIBROUS insulation