CASE STUDY

THERMEX TE VS DOUBLE WALL PIPING (FULLY JACKETED)

This case study will show the difference in pricing and design specifications between piping with an external heating system ThermEx (external heating system) and the traditional double wall piping (fully jacketed). Prices and based on engineering, manufacturing and installation onsite to give a true price comparison between the two systems. This process line is used for transport of molten sulphur, which needs to be thermally maintained
between 125 – 145°C to keep the viscosity low.

Location	North Africa
Application	Sulphur transfer line (3.5 bar steam, 148°C)
Design	Specifications
Length piping	600 m
Pipe size	DN250 (10inch)
Pipe material	Carbon Steel
Schedule pipe	XS
Number of elbows	40
Tee	1

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THERMEX SYSTEM

Piping fabrication DN250	600m x 267 =	€160.200.—
ThermEx system inc. elbows and tee		€409.800.—
Site welds	48 pcs	€8.640.—
Installation @	€35/hr 35x600	€21.000.—

OTHER DESIGN DETAILS THERMEX

Flange pairs DN250	0 (no need for spool pieces)
Expansion loops (each 100m)	6
Return condensate (no redundant option)	12
Return condensate (redundant option)	24
Steam consumption	209 kg

FULLY JACKETED/DOUBLE WALL PIPING

Manufacturing and installation	600m x 1510 = €906.000.—

OTHER DESIGN DETAILS THERMEX

Flange pairs DN250	50
Expansion loops (each 65m)	9
Return condensate	50
Steam consumption	954 kg

CONCLUSION THERMEX VS FULLY JACKETED PIPING

- No possibility of cross contamination
- 34% less expensive
- 78% less steam consumption
- 50% less steam traps required
- 30% less expansion loops
- Possibility of redundant system
- Easy to install and modify onsite
- ThermEx is engineered system and is performance guaranteed.
- Less flange pairs required
- All in-line components (valves, pumps, flow meters, etc ..) remain line-sized

Note. In the 34% price difference is not considered the cost benefit of less steam traps, use of line size components, much lower steam usage.

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