CHAPTER 2 - CONSERVATION AND EFFICIENCY: BUILDING SYSTEMS

502.11 PIPE AND DUCT INSULATION

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INTENT

To minimise energy loss and condensation in the pipe and ducts by using appropriate insulation.

REQUIREMENT

For all new buildings, all pipes carrying refrigerant, hot water or chilled water and ducts including prefabricated ducts, supplying conditioned air must be insulated, to minimise heat loss and to prevent condensation.

1. Pipes and ducts passing through conditioned spaces must be insulated in accordance with British Standard BS 5422 or other insulation standards as approved by Dubai Municipality.
2. Pipes passing through outside or unconditioned spaces must be insulated with the minimum insulation thickness specified in Table 502.11 (1).

Table 502.11(1): Minimum Insulation Thickness for Pipes Passing Through Unconditioned Spaces

Steel Pipe Nominal Pipe Size (mm)	Temperature of Contents (°C)					
	10°C		5°C		0°C	
	Minimum Insulation Thickness (mm)					
	λ = 0.018 W/mK	λ = 0.038 W/mK	λ = 0.018 W/mK	λ = 0.038 W/mK	λ = 0.018 W/mK	λ = 0.038 W/mK
15	30	45	30	45	30	50
20	30	45	30	55	30	60
25	30	55	35	55	40	60
32	30	55	35	55	40	65
40	30	55	35	60	40	65
50	30	60	40	60	45	70
65	40	60	40	60	45	70
80	40	60	40	65	45	75
100	40	70	40	65	45	75
150	40	75	45	80	50	90
200	45	75	45	80	55	90
250	45	75	55	80	55	100
300+	70	80	75	100	80	100

λ = thermal conductivity of insulating materials at a mean temperature of 10 °C.