



## Material Properties

Relevant Material Properties according to Schneider:

Material:	Water Vapour Diffusion Resistance	Thermal Conductivity	Density
Selection	$\mu$ -Value	$\lambda$ [W/(m*K)]	kg/m <sup>3</sup>
Concrete mid density outside	100.00	1.35	2,000.00
Concrete mid density inside	60.00	1.35	2,000.00
Porous Concrete mid density outside	10.00	0.36	1,000.00
Porous Concrete mid density inside	5.00	0.36	1,000.00
Cement Screed outside	35.00	1.40	2,000.00
Cement Screed inside	15.00	1.40	2,000.00
Nat. Stone Christaline (Granite)	10,000.00	3.50	2,800.00
Nat. Stone Sediment	250.00	2.30	2,600.00
Nat. Stone Vulcanic	20.00	0.55	1,600.00
Sandstone (Quarzit)	40.00	2.30	2,600.00
Marble	10,000.00	3.50	2,800.00
Sand-Lime Masonry	30.00	1.00	900.00
Brick outside	100.00	0.81	1,800.00
Brick inside	50.00	0.81	1,800.00
Insulating Brick outside	10.00	0.19	550.00
Insulating Brick inside	5.00	0.19	550.00
Vertically Perforated Lightweight Clay Brick outside	10.00	0.68	1,600.00
Vertically Perforated Lightweight Clay Brick inside	5.00	0.68	1,600.00
Solid Clay Brick Masonry outside	100.00	0.96	2,000.00
Solid Clay Brick Masonry inside	50.00	0.96	2,000.00
Ceramic Tiles	300.00	1.20	2,000.00
Ceramic Tiles	100.00	1.20	2,000.00
Silicate (Insul.) Plaster outside	20.00	0.20	600.00
Silicate (Insul.) Plaster inside	5.00	0.20	600.00
Accrylic Plaster outside	200.00	0.70	1,200.00
Accrylic Plaster inside	50.00	0.70	1,200.00
Gypsum	10.00	0.51	1,200.00
Gypsum Board inside damp (standard)	10.00	0.21	900.00
Gypsum Board inside dry (standard)	4.00	0.21	800.00
Rubber Hard (Ebonit)                      endless!	1,000,000,000.00	0.17	1,200.00
Rubber Butyl	200,000.00	0.24	1,200.00
Rubber Neopren	10,000.00	0.23	1,250.00
Carpet	5.00	0.06	200.00
Linoleum	1,000.00	0.17	1,200.00
Cork damp	40.00	0.07	400.00
Cork dry	20.00	0.07	400.00
Stick and Peel	90,000.00	0.17	1,500.00
Porous absorber Plastic	10,000.00	0.10	270.00
Cork impact sound insulation damp	20.00	0.05	200.00
Cork impact sound insulation dry	10.00	0.05	200.00
Aluminium                                      endless!	1,000,000,000.00	200.00	2,700.00
Steel    endless!	1,000,000,000.00	50.00	7,850.00
Steel Stainless Steel                          endless!	1,000,000,000.00	17.00	8,000.00
Poly Foile	100,000.00	0.14	1,200.00
Solid Plastic	10,000.00	0.23	1,700.00
Softwood (likeSPF)	40.00	0.13	600.00
Hardwood (like Oak)	40.00	0.20	800.00
Chipboard light density dry	10.00	0.08	300.00
Chipboard light density wet	50.00	0.08	300.00
Chipboard medium density dry	15.00	0.12	600.00
Chipboard medium density wet	50.00	0.12	600.00
Chipboard heavy density dry	20.00	0.18	900.00
Chipboard heavy density wet	50.00	0.18	900.00
Oriented Strand Board (OSB) Outside Sheeting	300.00	0.13	680.00
Oriented Strand Board (OSB) Inside Sheeting	200.00	0.14	680.00
Plywood Outside Sheeting	400.00	0.15	750.00
Plywood Inside Sheeting	250.00	0.18	750.00
Medium Dense Wood Fibreboard (MDF)	40.00	0.14	850.00
Wooden Softboard	4.00	0.05	180.00
Wood Wool Lightwght Board > 25mm outside	5.00	0.09	400.00
Wood Wool Lightwght Board > 25mm inside	2.00	0.09	400.00

Wood Wool Lightwght Board = 15mm outside	5.00	0.15	570.00
Wood Wool Lightwght Board = 15mm inside	2.00	0.15	570.00
Agepan DWD	11.00	0.09	565.00
Agepan UDP	4.00	0.05	270.00
Agepan THD	4.00	0.05	230.00
Expanded Rigid Polystyrene Foam outside	70.00	0.04	200.00
Expanded Rigid Polystyrene Foam inside	30.00	0.04	200.00
Extruded Rigid Polystyrene Foam outside	300.00	0.03	250.00
Extruded Rigid Polystyrene Foam inside	80.00	0.03	250.00
Mineral Wool	1.00	0.04	150.00
Fibre Glass Batts	1.00	0.04	70.00
Rigid Polyurethane Foam outside	100.00	0.03	370.00
Rigid Polyurethane Foam inside	30.00	0.03	370.00
Phenolic Spray Foam	100.00	0.04	10.00
Phenolic Spray Foam	30.00	0.04	10.00
PUR Spray Foam	3.00	0.03	37.00
PUR Spray Foam	1.00	0.03	37.00
Blow-in Fibre Glass Insulation	1.00	0.07	30.00
Foam Glass Heravy density	5.00	0.06	150.00
Foam Glass Leight density	5.00	0.05	100.00
Exterior membrane like Tyvek	100.00	0.05	35.00