

Issue: The difference between the Stebbs and Building Archetype setups is unclear. Their input parameters are mixed and hard to separate.

Categories	Input parameters	Range	Related to other models
Geometry	stebbs Height	>0	Not related
	FootprintArea	>0	
	WallExternalArea	>0	
	RatioInternalVolume	0-1	
	WWR	0-1	
Building material	WallThickness (the same as roof)	>0	Equivalent single-layer properties – can be derived from EHC setup (5 layers) WallEffectiveConductivity = $kkA_{\text{nohm}}$ (building) WallDensity* WallCp = $cpA_{\text{nohm}}$ (building)
	WallEffectiveConductivity	>0	
	WallDensity	>0	
	WallCp	>0	
	Wallx1	0-1	
	WallExternalEmissivity	>0	
	WallInternalEmissivity	>0	
	WallTransmissivity	0-1	
	WallAbsorbitivity	0-1	
	WallReflectivity	0-1	
	Similar setup for windows, floors, internal mass, and ground floor		Not related
	WallextThickness (similar to roof)	>0	Same (repeated) input for $D_{\text{yohm}}$ , - uses first layer of EHC wall
	WallextEffectiveConductivity	>0	
	WallextDensity	>0	
	WallextCp	>0	
Occupancy	Occupants	>0	Not related
	MetabolicRate	$\geq 0$	
	LatentSensibleRatio	$\geq 0$	
	ApplianceRating	$\geq 0$	
	TotalNumberOfAppliances	$\geq 0$	
	ApplianceUsageFactor	$\geq 0$	
HVAC	HeatingSetpointTemperature	10-30?	Not related
	CoolingSetpointTemperature	10-30?	
	MaxHeatingPower (in building-archetype)	$\geq 0$	
	MaxCoolingPower (stebbs)	$\geq 0$	
	HeatingSystemEfficiency	0-1	
	CoolingSystemCOP	$\geq 0$	
	VentilationRate	$\geq 0$	
Others	BuildingCount	>0	Not related
	IndoorAirDensity	>0	
	IndoorAirCp	>0	
	WallBuildingViewFactor (also for Roof)	$\geq 0$	Maybe link to Spartacus/BEERS?
	WallGroundViewFactor	$\geq 0$	
	WallSkyViewFactor	$\geq 0$	
Domestic hot water	MaximumHotWaterHeatingPower	>0	Not related
	WaterTankWaterVolume	>0	
	WaterTankTemperature	>0	
	WaterTankWallThickness	>0	
	HotWaterHeatingSetpointTemperature	>0	
	HotWaterTankWallEmissivity	0-1	
	DomesticHotWaterTemperatureInUseInBuilding	>0	
	DHWVesselWallThickness	>0	
	DHWWaterVolume	>0	

	DHWSurfaceArea	>0	
	DHWWesselEmissivity	0-1	
	HotWaterFlowRate	$\geq 0$	
	DHWDrainFlowRate	$\geq 0$	
	DHWSpecificHeatCapacity	>0	
	HotWaterTankSpecificHeatCapacity	>0	
	DHWWesselSpecificHeatCapacity	>0	
	DHWDensity	>0	
	HotWaterTankWallDensity	>0	
	DHWWesselDensity	>0	
	HotWaterTankBuildingWallViewFactor	0-1	
	HotWaterTankInternalMassViewFactor	0-1	
	HotWaterTankWallConductivity	>0	
	DHWWesselWallConductivity	>0	
	DHWWesselWallEmissivity	>0	
	HotWaterHeatingEfficiency	0-1	
	MinimumVolumeOfDHWinUse	$\geq 0$	
Initialised coefficient/ temperature	WallExternalConvectionCoefficient	>0 CIBSE GUIDE A Table 3.47	Not related
	WallInternalConvectionCoefficient	>0	
	RoofExternalConvectionCoefficient	>0	
	RoofInternalConvectionCoefficient	>0	
	WindowExternalConvectionCoefficient	>0	
	WindowInternalConvectionCoefficient	>0	
	FloorInternalConvectionCoefficient	>0	
	InternalMassConvectionCoefficient	>0	
	IndoorAirStartTemperature		
	IndoorMassStartTemperature		
	WallIndoorSurfaceTemperature		
	WallOutdoorSurfaceTemperature		
	RoofIndoorSurfaceTemperature		
	RoofOutdoorSurfaceTemperature		
	WindowIndoorSurfaceTemperature		
	WindowOutdoorSurfaceTemperature		
	GroundFloorIndoorSurfaceTemperature		
	GroundFloorOutdoorSurfaceTemperature		
	InternalWallWaterTankTemperature		
	ExternalWallWaterTankTemperature		
	InternalWallDHWVesselTemperature		
	ExternalWallDHWVesselTemperature		
	WaterTankTemperature		

Storage model	Number of building material layer	Building surfaces	Output
OHM	/	/	$\Delta Q_s$
DyOHM	1 (outer layer)	Combined wall and roof	$\Delta Q_s$
EHC	5	Separated wall and roof	$\Delta Q_s$ and $T_{surf}$
STEBBS	1 (homogenous layer) and 1 (outer layer)	Separated wall and roof	$\Delta Q_s$ and $T_{surf}$