

**Table: Embodied carbon dioxide of construction materials**

<b>CONCRETE</b>			
	Concrete type	ECO2 (kgCO2/m3)	ECO2 (kgCO2/tonne)
		CEM I concrete	CEM I concrete
Blinding, mass fill, strip footings, mass foundations <sup>1</sup>	GEN1 70 mm	173	75
Trench foundations <sup>1</sup>	GEN1 120 mm	184	80
Reinforced Foundations <sup>1</sup>	RC30 70 mm	318	132
Ground floors <sup>1</sup>	RC35 70 mm	315	133
Structural: in situ floors, superstructure, walls, basements <sup>1</sup>	RC40 70 mm	372	153
High strength concrete <sup>1</sup>	RC50 70mm	436	176
Dense concrete aggregate block <sup>2</sup>	Precast block	147	75
Aerated concrete block <sup>2</sup>	Precast block	121	240
Generic lightweight aggregate block <sup>3</sup>	Precast block	168	120
<b>TIMBER</b>		ECO2 (kgCO2/m3)	ECO2 (kgCO2/tonne)
Timber and timber-based materials (e.g. chipboard) <sup>4</sup>		141-512	336-819
<b>STEEL</b>		ECO2 (kgCO2/m3)	ECO2 (kgCO2/tonne)
Structural steel <sup>5</sup>		15,313	1,932

## References:

1. Embodied CO2 of various concrete mixes, The Concrete Centre, 2006, draft in proof
2. BRE Environmental Profiles database, Building Research Establishment (BRE), 2006
3. Communication from: the Environment Division, BREEAM Centre, Building Research Establishment (BRE), 2005
4. Rosso, S, Personal communication with S Rosso, School of the Environment, University of Brighton, 2006
5. Amato, A and Eaton, K J, A comparative environmental life cycle assessment of modern office buildings, Steel Construction Institute, 1998