

## Exposure Classes for Prestressed Floor Units – March 2016

All Milbank Prestressed Floor Units are manufactured using C45/55 Concrete with (CEM I) cement

Product	Max w/c ratio	Cement	Nominal Cover	Suitable for Exposure Classes
Prestressed T beams : T155, T225	0.39	460kg	25mm	XC1, XC3 and XC4
Prestressed Hollowcore Units: PS-150L, PS-150H, PS-200, PS-250	0.39	460kg	30mm	XC1, XC2, XC3, XC4 and XD1

### BS 8500-1:2015 Required Nominal Cover based on Exposure Conditions and Intended Working Life

	Exposure Condition	Exposure Class designation	Nominal cover (mm) for grade C45/55 for working life	
			50 years Table A4	100 years Table A5
Carbonation	Inside building, low humidity. Dry or Permanently wet.	XC1	20	20
	Long term contact with water. Wet rarely dry	XC2	30	30
	Inside building, high humidity. External, sheltered from rain (ground floors). Cyclical contact with water.	XC3 / XC4	25	35
Chlorides	Moderate humidity. Airborne chlorides (open car parks).	XD1	30	35
	Wet, rarely dry. Swimming pools. Industrial water containing chlorides.	XD2	35	45
	Cyclic wet and dry. Bridges exposed to chloride spray. Pavements. Car park slabs.	XD3	45	60
Sea Water	Airborne salt. Not direct contact to sea water Near or at coast.	XS1	50	70
	Permanently submerged. Marine permanently wet.	XS2	65	-
	Spray containing chlorides. Marine tidal, splash and spray	XS3	85	-
	Freeze/thaw. Chemical attack.	XF1-4 XA1-3	Refer to specialist literature, e.g. Annex A BS8500-1	

#### End Cover: -

Prestressing tendons are exposed at the ends of the units.

BS 8110-1:1997 Clause 3.3.2 states: - "Cover is not required to the end of a straight bar in a floor or roof unit where its end is not exposed to the weather or to condensation."