Guidelines

Interbloc™ Tie Back Wall

The inherent flexibility of the Interbloc™ system mean there are many ways to engineer a wall depending on the unique requirements of a given project. The following info sheet provides information and design guides for an Interbloc™ Tie Back Wall. The information contained in this information sheet is designed first and foremost to be demonstrative of the capabilities of Interbloc™ walls. Each project will require specific design work by a suitable qualified professional.

Interbloc™ Tie Back Wall

Interbloc™ Tie Back Walls make use synthetic matting cast into the blocks which, at the time of installation, is connected to corresponding matting extending back into the wall backfill. It makes use of a structural anchorage of the upper level of the wall back into the backfill material in retaining wall applications. These tie back elements reduce the tendency for wall over turning and help reduce the demand on the foundation element.

Typically tie back walls required smaller foundations compared to pure cantilever walls, however are really only applicable when constructed away from boundary lines and in situations where the backfill is permanent and stable. The suitability of the backfill material for anchorage of tie back elements requires geotechnical design input and evaluation by the project engineer.

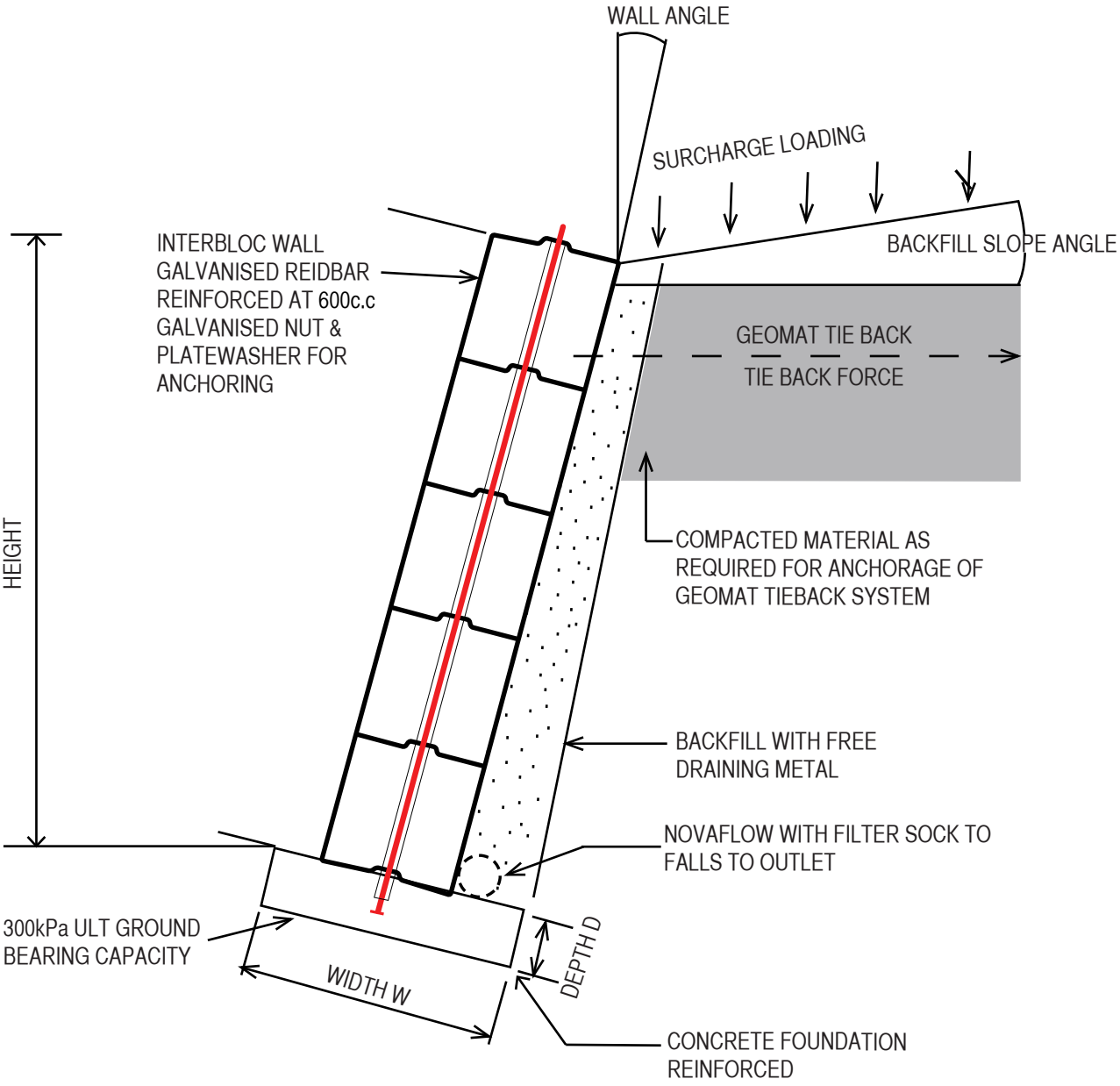
"Modular construction systems provide efficiencies in construction that cannot be achieved in traditional site based build processes. The modular Interbloc™ unit provides the flexibility of bricks and the speed of precast construction – a formidable combination in its area of use.."

Blueprint Consulting Engineers 2012

The following table provides a guide on the footing requirements and corresponding load capacities of an Interbloc™ Tie Back Wall.

Earth Pressures	Active
Tie Backs at top of 2nd block	
No Seismic Loads	
Good Ground	Conditions
Backfill Density	18kN/m^3
Backfill Slope	0 degrees
Backfill Friction Angle	30 degrees
Wall Friction Included	20 degrees

Surcharge	Wall Angle (Slope into Retaining)	Level Backfill							
				Block Inclinded Height						Ka
				1200	1800	2400	3000	3600	4200	
0 kPa	0 deg	Footing	W	700	700	700	750	900	1100	0.3
			D	150	200	250	250	250	250	
			L	50	50	50	75	150	250	
		Wall	Rebar	-	-	-	12	12	12	
			Spacing	-	-	-	1200	1200	1200	
			Tie Back	3.6	6.5	10	14.5	20	26	
	5 deg	Footing	W	700	700	700	750	750	750	0.26
			D	150	200	250	250	250	250	
			L	50	50	50	75	75	75	
		Wall	Rebar	-	-	-	12	12	12	
			Spacing	-	-	-	1200	1200	1200	
			Tie Back	3	5.5	8.5	12.5	17.5	23	
5 kPa	0 deg	Footing	W	700	700	700	750	900	1200	0.3
			D	150	200	250	250	250	250	
			L	50	50	50	75	150	300	
		Wall	Rebar	-	-	-	12	12	12	
			Spacing	-	-	-	1200	1200	1200	
			Tie Back	6.3	9	13	18	24	31	
	5deg	Footing	W	700	700	700	750	750	800	0.26
			D	150	200	200	250	250	250	
			L	50	50	50	75	75	100	
		Wall	Rebar	-	-	-	12	12	12	
			Spacing	-	-	-	1200	1200	1200	
			Tie Back	5.2	8	11.5	16	21.5	27	
10kPa	0 deg	Footing	W	700	700	700	800	900	1200	0.3
			D	150	200	200	250	250	250	
			L	50	50	50	200	150	300	
		Wall	Rebar	-	-	-	12	12	12	
			Spacing	-	-	-	1200	1200	1200	
			Tie Back	9	12	16.5	22	29	36	
	5 deg	Footing	W	700	700	700	750	750	800	0.26
			D	150	200	200	250	250	250	
			L	50	50	50	75	75	100	
		Wall	Rebar	-	-	-	12	12	12	
			Spacing	-	-	-	1200	1200	1200	
			Tie Back	7.5	10.5	14.5	19.5	25.5	32	


WALL ANGLE
SURCHARGE LOADING
BACKFILL SLOPE ANGLE
INTERBLOC WALL
GALVANISED REIDBAR
REINFORCED AT 600c.c
GALVANISED NUT &
PLATEWASHER FOR
ANCHORING
GEOMAT TIE BACK
TIE BACK FORCE
HEIGHT
COMPACTED MATERIAL AS
REQUIRED FOR ANCHORAGE OF
GEOMAT TIEBACK SYSTEM
BACKFILL WITH FREE
DRAINING METAL
NOVAFLOW WITH FILTER SOCK TO
FALLS TO OUTLET
300kPa ULT GROUND
BEARING CAPACITY
WIDTH W
DEPTH D
CONCRETE FOUNDATION
REINFORCED