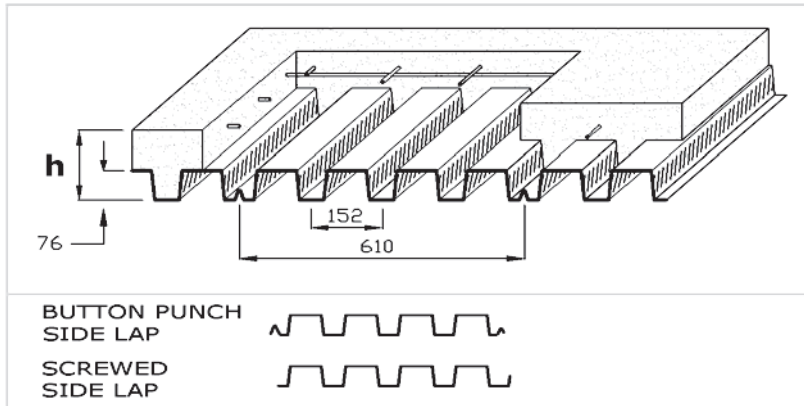


HI-BOND
COMPOSITE FLOOR

HB306
Z275 GALVANIZED



METRIC

LIMIT STATES DESIGN

Note

- Load Tables are based on the design of ONE-WAY composite slabs carrying uniformly distributed loads on a simple span basis. For complete design criteria see the VICWEST Hi-Bond Composite Floor Designer's Manual.
- A uniform loading in excess of 10 kPa (200 psf) is often an indication of concentrated or moving loads. Such conditions may require additional reinforcing steel. Contact VICWEST for additional design information
- Slab Thickness h , is from underside of steel deck to top of concrete. Maximum span is not to exceed $32h$.
- Properties and loads are based on Grade 230 steel (Grade 33 steel) with a minimum yield stress of 230 MPa (33,000 psi) and a maximum stress under Factored loads of 207 MPa (29,700 psi).
- Load values are based on Normal Weight Concrete (density of 2300 kg/m^3) (145 pcf) with a minimum compressive strength of 20.7 MPa (3,000 psi) and a Modular Ratio $n=9$

NOMINAL CORE THICKNESS (mm)	AREA OF STEEL (mm ²)	MASS WITH ZF75 GALVANIZED (kg/m ²)	SECTION MODULUS		Moment of Inertia		DEPTH FROM NEUTRAL AXIS TO BOTTOM OF DECK Y_b (mm)	MAXIMUM FACTORED REACTIONS	
			MIDSPAN S_m (mm ³ x 10 ³)	SUPPORT S_s (mm ³ x 10 ³)	MIDSPAN I_m (mm ⁴ x 10 ³)	FULL I_f (mm ⁴ x 10 ³)		EXTERIOR (kN)	INTERIOR (kN)
0.76	1429.7	11.64	25.94	26.67	1186.8	1309.8	42.83	13.6	21.5
0.91	1717.3	13.94	33.41	33.81	1488.4	1572.3	42.94	19.0	30.1
1.22	2284.3	18.42	46.42	48.39	2071.6	2088.8	43.17	32.1	50.7
1.52	2856.1	23.03	59.06	60.10	2608.4	2608.4	43.40	48.2	76.4

PHYSICAL PROPERTIES STEEL PROPERTIES

(PER METRE WIDTH)
In accordance with CSA Specification S136-07

SLAB THICKNESS h (mm)	141	151	166	176				
Slab Weight, W_f (kN/m ²)	2.32	2.55	2.90	3.12				
Concrete Volume, (m ³ /m ²)	0.095	0.105	0.120	0.130				
Base Steel Nominal Thickness (mm)	l_c	d	l_c	d	l_c	d	l_c	d
0.76	13790	98.2	16828	108.2	22205	123.2	26380	133.2
0.91	14721	98.1	17953	108.1	23669	123.1	28103	133.1
1.22	16398	97.8	19978	107.8	26309	122.8	31214	132.8
1.52	17920	97.6	21814	107.6	28703	122.6	34040	132.6

PHYSICAL PROPERTIES COMPOSITE SLAB

(PER METRE WIDTH)
Composite Moment of Inertia, I_c (mm⁴ x 10³)
Effective Depth, d (mm)

Base Steel Nominal Thickness (mm)	Span (mm)	1			2			3			1			2			3		
		Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	
0.76	2600	11.7	11.7	11.7	12.9	12.9	12.9	14.6	14.6	14.6	15.8	15.8	15.8						
	2800	10.4	10.4	10.4	11.4	11.4	11.4		13.0	13.0		14.1	14.1						
	3000		9.3	9.3			10.2	10.2			11.7								
	3200			8.4															
0.91	2600	13.7	13.7	13.7	15.1	15.1	15.1	17.1	17.1	17.1	18.5	18.5	18.5						
	2800	12.2	12.2	12.2	13.4	13.4	13.4	15.3	15.3	15.3	16.5	16.5	16.5						
	3000	10.9	10.9	10.9	12.1	12.1	12.1	13.7	13.7	13.7	14.8	14.8	14.8						
	3200	9.9	9.9	9.9	10.9	10.9	10.9		12.4	12.4		13.5	13.5						
	3400	9.0	9.0	9.0			10.0	10.0			11.4								
1.22	3000	14.4	14.4	14.4	15.8	15.8	15.8	18.0	18.0	18.0	19.5	19.5	19.5						
	3200	13.1	13.1	13.1	14.4	14.4	14.4	16.4	16.4	16.4	17.7	17.7	17.7						
	3400	12.0	12.0	12.0	13.2	13.2	13.2	15.0	15.0	15.0	16.2	16.2	16.2						
	3600	11.0	11.0	11.0	12.1	12.1	12.1	13.8	13.8	13.8	14.9	14.9	14.9						
	3800	10.2	10.2	10.2	11.2	11.2	11.2		12.8	12.8		13.8	13.8						
	4000		9.5	9.5			10.4	10.4			11.9								
1.52	4200		8.9	8.9			9.8												
	4400			7.9															
	3400	14.7	14.7	14.7	16.3	16.3	16.3	18.5	18.5	18.5	20.0	20.0	20.0						
	3600	13.6	13.6	13.6	15.0	15.0	15.0	17.1	17.1	17.1	18.5	18.5	18.5						
	3800	12.6	12.6	12.6	13.9	13.9	13.9	15.9	15.9	15.9	17.2	17.2	17.2						
	4000	11.8	11.8	11.8	13.0	13.0	13.0		14.8	14.8		16.0	16.0						
	4200	10.5	10.5	10.5			12.1	12.1		13.8	13.8		14.9	14.9					
4400		9.1	9.1			10.8	10.8		13.0	13.0									
4600		8.0	8.0			9.7	9.7												

LOAD TABLE

Maximum Specified Uniformly Distributed Load in kN/m^2 (kPa)
Shear Bond Coefficients
 $k_1 = 79.7831$
 $k_2 = 71.2935$
 $k_3 = 0.2576$
 $k_4 = -0.0676$

Continued on back

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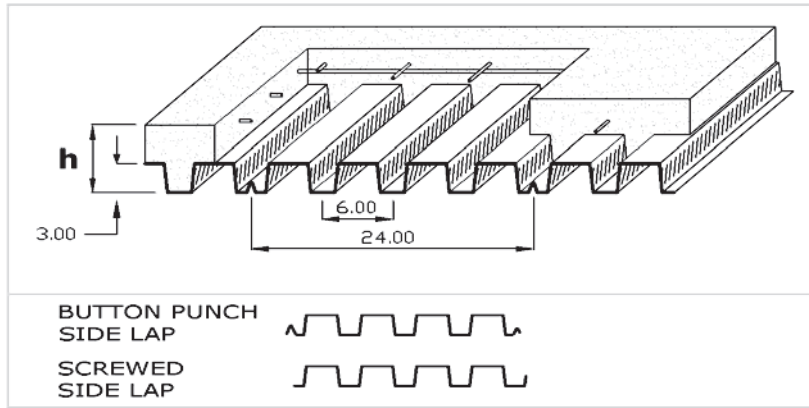
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HI-BOND
COMPOSITE FLOOR

HB306
Z275 GALVANIZED



IMPERIAL

LIMIT STATES
DESIGN

PHYSICAL
PROPERTIES
STEEL PROFILE

NOMINAL CORE THICKNESS (inches)	AREA OF STEEL (inches ²)	MASS WITH ZF75 GALVANIZED (lb/ft ²)	SECTION MODULUS		Moment of Inertia		DEPTH FROM NEUTRAL AXIS TO BOTTOM OF DECK Y _b (inches)	MAXIMUM FACTORED REACTIONS	
			MIDSPAN S _m (inches ³)	SUPPORT S _s (inches ³)	MIDSPAN I _m (inches ⁴)	FULL I _f (inches ⁴)		EXTERIOR (pounds)	INTERIOR (pounds)
.030	0.675	2.384	0.4825	0.4961	0.8691	0.9591	1.686	932	1473
.036	0.811	2.855	0.6214	0.6289	1.0899	1.1514	1.691	1302	2063
.048	1.079	3.774	0.8634	0.9001	1.5170	1.5296	1.700	2200	3474
.060	1.349	4.717	1.0985	1.1179	1.9101	1.9101	1.709	3303	5235

PHYSICAL
PROPERTIES
COMPOSITE SLAB

SLAB THICKNESS h (inches)	5.50	6.00	6.50	7.00				
Slab Weight, W ₁ (lb/ft ²)	47.9	54.0	60.0	66.1				
Concrete Volume, (cu yd/100 ft ²)	1.133	1.287	1.441	1.595				
Base Steel Nominal Thickness (inches)	I _c	d	I _c	d	I _c	d	I _c	d
.030	9.8324	3.814	12.6602	4.314	16.0035	4.814	19.9067	5.314
.036	10.4972	3.809	13.5056	4.309	17.0599	4.809	21.2053	5.309
.048	11.6945	3.800	15.0272	4.300	18.9635	4.800	23.5495	5.300
.060	12.7817	3.791	16.4067	4.291	20.6902	4.791	25.6793	5.291

LOAD
TABLE

Base Steel Nominal Thickness (inches)	Span (inches)	1			2			3			1			2			3		
		Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	Span	
.030	8'-6"	242	242	242	274	274	274	306	306	306	338	338	338						
	9'-0"	221	221	221	250	250	250		279	279		308	308						
	9'-6"	203	203	203		230	230		256	256								283	
	10'-0"		187	187			212												
.036	9'-6"	239	239	239	271	271	271	302	302	302	333	333	333						
	10'-0"	221	221	221	250	250	250	279	279	279		308	308						
	10'-6"	205	205	205	232	232	232		259	259								286	
	11'-0"	191	191	191		216	216			242									
.048	11'-6"		179	179			202												
	12'-0"			168															
	10'-6"	269	269	269	304	304	304	340	340	340	375	375	375						
	11'-0"	251	251	251	284	284	284	317	317	317	350	350	350						
	11'-6"	236	236	236	267	267	267	298	298	298	329	329	329						
	12'-0"	222	222	222	251	251	251	280	280	280		309	309						
.060	12'-6"	209	209	209	237	237	237		264	264								292	
	13'-0"		198	198		224	224			250									
	13'-6"		188	188			212												
	14'-0"			173															
	11'-0"	311	311	311	352	352	352	393	393	393	400	400	400						
	11'-6"	292	292	292	330	330	330	369	369	369	400	400	400						
.060	12'-0"	275	275	275	311	311	311	348	348	348	384	384	384						
	12'-6"	260	260	260	294	294	294	328	328	328	363	363	363						
	13'-0"	245	245	245	279	279	279		311	311		344	344						
	13'-6"	224	224	224		265	265		295	295		326	326						
14'-0"		204	204		246	246		281	281								311		

Note

Continued from front

- No additional reinforcing steel is required for the slab thicknesses shown on this table. For temperature reinforcing (crack-control) steel, see the VICWEST Hi-Bond Composite Floor Designer's Manual.
- Hi-Bond composite load capacities are dependant on the material finish of the steel. VICWEST publishes load tables for ZF75 Galvanneal steel and Z275 Galvanized steel. For other finishes contact your local VICWEST office.
- Loads for the deck acting as a Form include Slab Weight, W₁ and a construction load of 1.0 kN/m² (21 psf) Uniformly Distributed Live Load OR 2.0 kN/m (137 lb/ft) Transverse Live Load.
- Load Table values allow for slab self weight.

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