

# 4.4 BH-36 Composite Deck

**3 1/2" Total Slab Depth**

**Light Weight Concrete (110 pcf)**

Concrete Volume 0.776yd<sup>3</sup>/100ft<sup>2</sup>



Maximum Unshored Span (in)

Gage	Single	Double	Triple	Gage	Single	Double	Triple
22	7' - 1"	7' - 2"	8' - 6"	18	9' - 9"	11' - 4"	12' - 0"
20	8' - 7"	9' - 0"	10' - 2"	16	10' - 6"	12' - 11"	12' - 7"

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
		<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>														
	ASD, W/Ω	497	408	340	287	245	211	183	156	131	112	96	83	72	63	55
	LRFD, φW	796	653	544	459	391	337	293	256	225	199	177	157	141	126	114
	L/360	-	-	-	-	-	-	-	156	131	112	96	83	72	63	55
		<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>														
22	Arc Spot Weld 1/2" Effective Dia	1978	1915	1862	1833	1793	1759	1729	1702	1679	1669	1649	1631	1615	1601	1587
	PAF Base Steel ≥ .25"	1663	1628	1599	1590	1568	1549	1532	1517	1503	1503	1491	1481	1472	1463	1456
	PAF Base Steel ≥ 0.125"	1638	1606	1578	1571	1550	1532	1516	1502	1490	1490	1479	1469	1461	1453	1445
	#12 Screw Base Steel ≥ .0385"	1616	1585	1559	1554	1534	1517	1502	1489	1477	1478	1468	1459	1450	1443	1436
	Concrete + Deck = 24.8 psf (l <sub>cr</sub> +l <sub>cb</sub> )/2 = 30.97 in <sup>4</sup> /ft					I <sub>cr</sub> = 23.1 in <sup>4</sup> /ft I <sub>b</sub> = 38.8 in <sup>4</sup> /ft					M <sub>no</sub> /Ω = 20.2 kip-in/ft φM <sub>no</sub> = 31.0 kip-in/ft	V <sub>r</sub> /Ω = 1.43 kip/ft φ V <sub>n</sub> = 2.85 kip/ft				

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
		<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>														
	ASD, W/Ω	570	477	398	336	287	243	200	167	141	120	103	89	77	67	59
	LRFD, φW	930	763	637	538	460	397	345	302	266	236	210	188	168	151	137
	L/360	-	-	-	-	-	243	200	167	141	120	103	89	77	67	59
		<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>														
20	Arc Spot Weld 1/2" Effective Dia	2129	2051	1986	1955	1906	1864	1827	1795	1766	1756	1732	1710	1690	1672	1655
	PAF Base Steel ≥ .25"	1744	1701	1666	1659	1632	1608	1587	1568	1552	1554	1540	1527	1515	1505	1495
	PAF Base Steel ≥ 0.125"	1715	1675	1641	1637	1611	1588	1569	1551	1536	1538	1525	1513	1502	1492	1483
	#12 Screw Base Steel ≥ .0385"	1690	1652	1621	1618	1593	1572	1553	1537	1522	1525	1513	1501	1491	1481	1473
	Concrete + Deck = 25.1 psf (l <sub>cr</sub> +l <sub>cb</sub> )/2 = 33.23 in <sup>4</sup> /ft					I <sub>cr</sub> = 26.0 in <sup>4</sup> /ft I <sub>b</sub> = 40.5 in <sup>4</sup> /ft					M <sub>no</sub> /Ω = 23.5 kip-in/ft φM <sub>no</sub> = 36.0 kip-in/ft	V <sub>r</sub> /Ω = 1.43 kip/ft φ V <sub>n</sub> = 2.85 kip/ft				

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
		<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>														
	ASD, W/Ω	570	518	475	416	333	271	223	186	157	133	114	99	86	75	66
	LRFD, φW	1141	957	799	676	579	500	436	383	338	300	268	240	216	195	177
	L/360	-	-	-	416	333	271	223	186	157	133	114	99	86	75	66
		<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>														
18	Arc Spot Weld 1/2" Effective Dia	2441	2334	2245	2212	2144	2086	2034	1989	1949	1942	1908	1877	1849	1824	1801
	PAF Base Steel ≥ .25"	1913	1854	1805	1806	1767	1734	1705	1679	1656	1664	1644	1626	1610	1595	1581
	PAF Base Steel ≥ 0.125"	1875	1819	1773	1776	1740	1708	1681	1656	1634	1644	1625	1608	1592	1578	1565
	#12 Screw Base Steel ≥ .0385"	1848	1795	1751	1756	1721	1690	1664	1640	1620	1630	1612	1595	1580	1566	1554
	Concrete + Deck = 25.8 psf (l <sub>cr</sub> +l <sub>cb</sub> )/2 = 36.95 in <sup>4</sup> /ft					I <sub>cr</sub> = 30.6 in <sup>4</sup> /ft I <sub>b</sub> = 43.3 in <sup>4</sup> /ft					M <sub>no</sub> /Ω = 29.3 kip-in/ft φM <sub>no</sub> = 44.8 kip-in/ft	V <sub>r</sub> /Ω = 1.43 kip/ft φ V <sub>n</sub> = 2.85 kip/ft				

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
		<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>														
	ASD, W/Ω	570	518	475	439	363	295	243	203	171	145	125	108	94	82	72
	LRFD, φW	1141	1037	951	808	692	599	523	459	406	361	323	290	261	236	215
	L/360	-	-	-	-	363	295	243	203	171	145	125	108	94	82	72
		<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>														
16	Arc Spot Weld 1/2" Effective Dia	2774	2636	2521	2490	2402	2325	2259	2200	2147	2146	2101	2061	2025	1991	1961
	PAF Base Steel ≥ .25"	2094	2018	1955	1967	1916	1873	1834	1800	1770	1788	1762	1738	1716	1696	1678
	PAF Base Steel ≥ 0.125"	2020	1951	1893	1910	1864	1823	1788	1757	1729	1749	1725	1703	1682	1664	1647
	#12 Screw Base Steel ≥ .0385"	2029	1960	1902	1919	1872	1832	1796	1765	1737	1758	1733	1711	1690	1672	1655
	Concrete + Deck = 26.5 psf (l <sub>cr</sub> +l <sub>cb</sub> )/2 = 40.33 in <sup>4</sup> /ft					I <sub>cr</sub> = 34.6 in <sup>4</sup> /ft I <sub>b</sub> = 46.0 in <sup>4</sup> /ft					M <sub>no</sub> /Ω = 34.8 kip-in/ft φM <sub>no</sub> = 53.2 kip-in/ft	V <sub>r</sub> /Ω = 1.43 kip/ft φ V <sub>n</sub> = 2.85 kip/ft				

All Gages	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) for all vertical load spans, WWF Designation or Area of Steel per foot width</b>																
	3/4" Welded Shear Studs	6x6 W1.4xW1.4				6x6 W2.9xW2.9				6x6 W4.0xW4.0				4x4 W4xW4		4x4 W6xW6	
		A <sub>s</sub> = 0.028 in <sup>2</sup> /ft				A <sub>s</sub> = 0.058 in <sup>2</sup> /ft				A <sub>s</sub> = 0.080 in <sup>2</sup> /ft				A <sub>s</sub> = 0.120 in <sup>2</sup> /ft		A <sub>s</sub> = 0.180 in <sup>2</sup> /ft	
	6 in o.c.	2720				4070				5060				6860		9560	
	12 in o.c.	2720				4070				5060				6860		9560	
18 in o.c.	2720				4070				5060				6860		8790		

# BH-36 Composite Deck 4.4

4" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 0.931yd<sup>3</sup>/100ft<sup>2</sup>

1 Hour Fire Rating



Maximum Unshored Span (in)

Gage	Single	Double	Triple	Gage	Single	Double	Triple
22	6' - 10"	7' - 0"	8' - 1"	18	9' - 3"	10' - 11"	11' - 7"
20	8' - 2"	8' - 8"	9' - 8"	16	10' - 0"	12' - 4"	12' - 1"

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	
22	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																
	ASD, W/Ω	633	519	433	365	312	269	234	205	180	159	142	122	106	93	82	
	LRFD, φW	1013	831	692	585	499	430	374	327	288	255	227	202	181	163	147	
	L/360	-	-	-	-	-	-	-	-	-	-	142	122	106	93	82	
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																
	Arc Spot Weld 1/2" Effective Dia	2303	2239	2186	2157	2117	2083	2053	2026	2003	1993	1973	1955	1939	1925	1911	1911
	PAF Base Steel ≥ .25"	1987	1952	1923	1914	1892	1873	1856	1841	1827	1827	1815	1805	1796	1787	1780	1780
	PAF Base Steel ≥ 0.125"	1962	1930	1902	1896	1874	1856	1840	1826	1814	1814	1803	1793	1785	1777	1769	1769
	#12 Screw Base Steel ≥ .0385"	1940	1909	1883	1878	1858	1841	1826	1813	1801	1802	1792	1783	1774	1767	1760	1760
	Concrete + Deck = 29.4 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 45.86 in <sup>4</sup> /ft						l <sub>cr</sub> = 33.8 in <sup>4</sup> /ft l <sub>u</sub> = 57.9 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 25.7 kip-in/ft φM <sub>no</sub> = 39.3 kip-in/ft			V <sub>r</sub> /Ω = 1.70 kip/ft φ V <sub>n</sub> = 3.40 kip/ft			

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	
20	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																
	ASD, W/Ω	679	608	508	429	367	317	276	242	208	177	152	131	114	100	88	
	LRFD, φW	1186	974	812	687	587	507	441	387	341	303	270	241	217	195	176	
	L/360	-	-	-	-	-	-	-	-	208	177	152	131	114	100	88	
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																
	Arc Spot Weld 1/2" Effective Dia	2453	2375	2310	2279	2231	2188	2151	2119	2090	2080	2056	2034	2014	1996	1979	1979
	PAF Base Steel ≥ .25"	2068	2025	1990	1983	1956	1932	1911	1892	1876	1878	1864	1851	1839	1829	1819	1819
	PAF Base Steel ≥ 0.125"	2039	1999	1965	1961	1935	1912	1893	1875	1860	1862	1849	1837	1826	1816	1807	1807
	#12 Screw Base Steel ≥ .0385"	2014	1976	1945	1942	1917	1896	1877	1861	1846	1849	1837	1825	1815	1805	1797	1797
	Concrete + Deck = 29.7 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 49.16 in <sup>4</sup> /ft						l <sub>cr</sub> = 38.1 in <sup>4</sup> /ft l <sub>u</sub> = 60.3 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 29.9 kip-in/ft φM <sub>no</sub> = 45.8 kip-in/ft			V <sub>r</sub> /Ω = 1.70 kip/ft φ V <sub>n</sub> = 3.40 kip/ft			

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	
18	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																
	ASD, W/Ω	679	617	566	522	465	400	330	275	232	197	169	146	127	111	98	
	LRFD, φW	1358	1227	1025	868	743	643	561	492	435	387	346	310	279	252	229	
	L/360	-	-	-	-	-	400	330	275	232	197	169	146	127	111	98	
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																
	Arc Spot Weld 1/2" Effective Dia	2765	2658	2569	2536	2468	2410	2358	2313	2273	2266	2232	2201	2174	2148	2125	2125
	PAF Base Steel ≥ .25"	2237	2179	2129	2130	2091	2058	2029	2003	1980	1988	1968	1950	1934	1919	1905	1905
	PAF Base Steel ≥ 0.125"	2199	2144	2097	2100	2064	2032	2005	1980	1958	1968	1949	1932	1916	1902	1889	1889
	#12 Screw Base Steel ≥ .0385"	2172	2119	2075	2080	2045	2015	1988	1965	1944	1954	1936	1919	1904	1890	1878	1878
	Concrete + Deck = 30.4 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 54.67 in <sup>4</sup> /ft						l <sub>cr</sub> = 45.0 in <sup>4</sup> /ft l <sub>u</sub> = 64.4 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 37.5 kip-in/ft φM <sub>no</sub> = 57.3 kip-in/ft			V <sub>r</sub> /Ω = 1.70 kip/ft φ V <sub>n</sub> = 3.40 kip/ft			

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	
16	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																
	ASD, W/Ω	679	617	566	522	485	437	360	300	253	215	184	159	138	121	107	
	LRFD, φW	1358	1235	1132	1040	892	772	674	593	525	467	418	376	339	307	279	
	L/360	-	-	-	-	-	437	360	300	253	215	184	159	138	121	107	
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																
	Arc Spot Weld 1/2" Effective Dia	3098	2960	2845	2814	2726	2649	2583	2524	2471	2470	2425	2385	2349	2315	2285	2285
	PAF Base Steel ≥ .25"	2418	2342	2279	2291	2241	2197	2158	2124	2094	2112	2086	2062	2040	2020	2002	2002
	PAF Base Steel ≥ 0.125"	2345	2275	2217	2234	2188	2147	2112	2081	2053	2073	2049	2027	2006	1988	1971	1971
	#12 Screw Base Steel ≥ .0385"	2353	2284	2226	2243	2196	2156	2120	2089	2061	2082	2057	2035	2015	1996	1979	1979
	Concrete + Deck = 31.1 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 59.64 in <sup>4</sup> /ft						l <sub>cr</sub> = 51.0 in <sup>4</sup> /ft l <sub>u</sub> = 68.2 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 44.6 kip-in/ft φM <sub>no</sub> = 68.3 kip-in/ft			V <sub>r</sub> /Ω = 1.70 kip/ft φ V <sub>n</sub> = 3.40 kip/ft			

All Gages	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) for all vertical load spans, WWF Designation or Area of Steel per foot width</b>										
	3/4" Welded Shear Studs	6x6 W1.4xW1.4		6x6 W2.9xW2.9		6x6 W4.0xW4.0		4x4 W4xW4		4x4 W6xW6	
		A <sub>s</sub> = 0.028 in <sup>2</sup> /ft		A <sub>s</sub> = 0.058 in <sup>2</sup> /ft		A <sub>s</sub> = 0.080 in <sup>2</sup> /ft		A <sub>s</sub> = 0.120 in <sup>2</sup> /ft		A <sub>s</sub> = 0.180 in <sup>2</sup> /ft	
	6 in o.c.	3090		4440		5430		7230		9930	
	12 in o.c.	3090		4440		5430		7230		9930	
18 in o.c.	3090		4440		5430		7230		8790		

# 4.4 BH-36 Composite Deck

4 1/2" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.085yd<sup>3</sup>/100ft<sup>2</sup>



Maximum Unshored Span (in)

Gage	Single	Double	Triple	Gage	Single	Double	Triple
22	6' - 6"	6' - 10"	7' - 9"	18	8' - 11"	10' - 6"	11' - 1"
20	7' - 10"	8' - 5"	9' - 3"	16	9' - 7"	11' - 10"	11' - 9"

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
22	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	776	637	531	449	383	331	288	252	222	197	175	156	140	126	114
	LRFD, φW	1242	1019	850	718	614	529	460	403	355	314	280	250	224	202	182
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	2627	2563	2510	2481	2441	2407	2377	2350	2327	2317	2297	2279	2263	2249	2235
	PAF Base Steel ≥ .25"	2311	2276	2247	2238	2216	2197	2180	2165	2151	2151	2139	2129	2120	2111	2104
	PAF Base Steel ≥ 0.125"	2287	2254	2226	2220	2199	2180	2164	2150	2138	2138	2127	2118	2109	2101	2093
	#12 Screw Base Steel ≥ .0385"	2264	2233	2207	2202	2182	2165	2150	2137	2125	2126	2116	2107	2099	2091	2084
	Concrete + Deck = 34.0 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 64.87 in <sup>4</sup> /ft			l <sub>cr</sub> = 47.1 in <sup>4</sup> /ft l <sub>u</sub> = 82.6 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 31.4 kip-in/ft φM <sub>no</sub> = 48.1 kip-in/ft		V <sub>r</sub> /Ω = 1.99 kip/ft φV <sub>n</sub> = 3.97 kip/ft						

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
20	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	795	723	624	528	452	390	340	298	263	234	208	185	161	141	124
	LRFD, φW	1457	1197	999	845	723	625	544	477	421	374	333	298	268	242	219
	L/360	-	-	-	-	-	-	-	-	-	-	-	185	161	141	124
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	2777	2699	2634	2603	2555	2512	2475	2443	2414	2404	2380	2358	2338	2320	2304
	PAF Base Steel ≥ .25"	2392	2350	2314	2307	2280	2256	2235	2217	2200	2202	2188	2175	2163	2153	2143
	PAF Base Steel ≥ 0.125"	2363	2323	2289	2285	2259	2236	2217	2199	2184	2186	2173	2161	2150	2140	2131
	#12 Screw Base Steel ≥ .0385"	2338	2300	2269	2266	2241	2220	2201	2185	2170	2173	2161	2149	2139	2129	2121
	Concrete + Deck = 34.3 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 69.5 in <sup>4</sup> /ft			l <sub>cr</sub> = 53.1 in <sup>4</sup> /ft l <sub>u</sub> = 85.9 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 36.7 kip-in/ft φM <sub>no</sub> = 56.2 kip-in/ft		V <sub>r</sub> /Ω = 1.99 kip/ft φV <sub>n</sub> = 3.97 kip/ft						

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
18	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	795	723	662	611	568	497	434	381	328	279	239	206	179	157	138
	LRFD, φW	1590	1445	1267	1073	919	796	694	610	540	480	429	385	347	314	285
	L/360	-	-	-	-	-	-	-	-	328	279	239	206	179	157	138
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	3089	2982	2893	2860	2792	2734	2682	2637	2597	2590	2556	2525	2498	2472	2449
	PAF Base Steel ≥ .25"	2561	2503	2453	2454	2415	2382	2353	2327	2304	2312	2292	2274	2258	2243	2229
	PAF Base Steel ≥ 0.125"	2523	2468	2421	2425	2388	2356	2329	2304	2283	2292	2273	2256	2240	2226	2213
	#12 Screw Base Steel ≥ .0385"	2496	2443	2399	2404	2369	2339	2312	2289	2268	2278	2260	2243	2228	2215	2202
	Concrete + Deck = 35.0 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 77.32 in <sup>4</sup> /ft			l <sub>cr</sub> = 63.0 in <sup>4</sup> /ft l <sub>u</sub> = 91.6 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 46.2 kip-in/ft φM <sub>no</sub> = 70.7 kip-in/ft		V <sub>r</sub> /Ω = 1.99 kip/ft φV <sub>n</sub> = 3.97 kip/ft						

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
16	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	795	723	662	611	568	530	497	424	357	304	261	225	196	171	151
	LRFD, φW	1590	1445	1325	1223	1107	959	837	737	653	581	521	468	423	383	348
	L/360	-	-	-	-	-	-	-	424	357	304	261	225	196	171	151
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	3422	3284	3169	3138	3050	2974	2907	2848	2796	2794	2749	2709	2673	2639	2609
	PAF Base Steel ≥ .25"	2742	2666	2603	2615	2565	2521	2482	2448	2418	2436	2410	2386	2364	2344	2326
	PAF Base Steel ≥ 0.125"	2669	2599	2541	2559	2512	2471	2436	2405	2377	2397	2373	2351	2330	2312	2295
	#12 Screw Base Steel ≥ .0385"	2677	2608	2550	2567	2520	2480	2444	2413	2385	2406	2381	2359	2339	2320	2303
	Concrete + Deck = 35.7 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 84.35 in <sup>4</sup> /ft			l <sub>cr</sub> = 71.7 in <sup>4</sup> /ft l <sub>u</sub> = 97.0 in <sup>4</sup> /ft				M <sub>no</sub> /Ω = 55.2 kip-in/ft φM <sub>no</sub> = 84.5 kip-in/ft		V <sub>r</sub> /Ω = 1.99 kip/ft φV <sub>n</sub> = 3.97 kip/ft						

All Gages	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) for all vertical load spans, WWF Designation or Area of Steel per foot width</b>																
	3/4" Welded Shear Studs	6x6 W1.4xW1.4				6x6 W2.9xW2.9				6x6 W4.0xW4.0				4x4 W4xW4		4x4 W6xW6	
		A <sub>s</sub> = 0.028 in <sup>2</sup> /ft				A <sub>s</sub> = 0.058 in <sup>2</sup> /ft				A <sub>s</sub> = 0.080 in <sup>2</sup> /ft				A <sub>s</sub> = 0.120 in <sup>2</sup> /ft		A <sub>s</sub> = 0.180 in <sup>2</sup> /ft	
	6 in o.c.	3460				4810				5800				7600		10300	
	12 in o.c.	3460				4810				5800				7600		10300	
18 in o.c.	3460				4810				5800				7600		8790		

# BH-36 Composite Deck 4.4

**4¾" Total Slab Depth**

**Light Weight Concrete (110 pcf)**

Concrete Volume 1.162yd<sup>3</sup>/100ft<sup>2</sup>

2 Hour Fire Rating



Maximum Unshored Span (in)

Gage	Single	Double	Triple	Gage	Single	Double	Triple
22	6' - 5"	6' - 9"	7' - 7"	18	8' - 8"	10' - 4"	10' - 11"
20	7' - 8"	8' - 4"	9' - 1"	16	9' - 5"	11' - 7"	11' - 7"

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
22	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	850	698	582	492	420	363	315	276	243	216	192	172	154	139	125
	LRFD, φW	1360	1116	931	787	672	580	505	442	390	345	307	275	246	222	200
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	2789	2725	2672	2643	2603	2569	2539	2512	2489	2479	2459	2442	2425	2411	2397
	PAF Base Steel ≥ .25"	2473	2438	2409	2400	2378	2359	2342	2327	2313	2313	2301	2291	2282	2273	2266
	PAF Base Steel ≥ 0.125"	2449	2416	2388	2382	2361	2342	2326	2312	2300	2300	2289	2280	2271	2263	2255
	#12 Screw Base Steel ≥ .0385"	2426	2395	2369	2364	2344	2327	2312	2299	2287	2288	2278	2269	2261	2253	2246
	Concrete + Deck = 36.3 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 76.06 in <sup>4</sup> /ft						l <sub>cr</sub> = 54.7 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 34.4 kip-in/ft				V <sub>r</sub> /Ω = 2.14 kip/ft		
						l <sub>u</sub> = 97.4 in <sup>4</sup> /ft			φM <sub>no</sub> = 52.6 kip-in/ft				φV <sub>n</sub> = 4.28 kip/ft			

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
20	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	855	778	685	579	496	428	373	327	289	257	229	205	184	165	146
	LRFD, φW	1597	1312	1095	927	793	685	597	524	462	411	366	328	295	266	241
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	165	146
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	2939	2861	2796	2765	2717	2674	2637	2605	2576	2566	2542	2520	2500	2482	2466
	PAF Base Steel ≥ .25"	2554	2512	2476	2469	2442	2418	2397	2379	2362	2364	2350	2337	2325	2315	2305
	PAF Base Steel ≥ 0.125"	2525	2485	2451	2447	2421	2398	2379	2361	2346	2348	2335	2323	2312	2302	2293
	#12 Screw Base Steel ≥ .0385"	2500	2463	2431	2428	2403	2382	2363	2347	2332	2335	2323	2311	2301	2291	2283
	Concrete + Deck = 36.6 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 81.45 in <sup>4</sup> /ft						l <sub>cr</sub> = 61.7 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 40.2 kip-in/ft				V <sub>r</sub> /Ω = 2.14 kip/ft		
						l <sub>u</sub> = 101.2 in <sup>4</sup> /ft			φM <sub>no</sub> = 61.5 kip-in/ft				φV <sub>n</sub> = 4.28 kip/ft			

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
18	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	855	778	713	658	611	547	477	419	371	327	280	242	210	184	162
	LRFD, φW	1711	1555	1392	1179	1011	875	763	671	594	528	472	424	383	346	314
	L/360	-	-	-	-	-	-	-	-	-	327	280	242	210	184	162
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	3251	3144	3055	3022	2954	2896	2844	2799	2759	2752	2718	2687	2660	2634	2611
	PAF Base Steel ≥ .25"	2724	2665	2615	2616	2577	2544	2515	2489	2466	2474	2454	2436	2420	2405	2391
	PAF Base Steel ≥ 0.125"	2685	2630	2583	2587	2550	2518	2491	2466	2445	2454	2435	2418	2402	2388	2375
	#12 Screw Base Steel ≥ .0385"	2658	2605	2561	2566	2531	2501	2474	2451	2430	2440	2422	2405	2390	2377	2364
	Concrete + Deck = 37.3 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 90.62 in <sup>4</sup> /ft						l <sub>cr</sub> = 73.4 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 50.7 kip-in/ft				V <sub>r</sub> /Ω = 2.14 kip/ft		
						l <sub>u</sub> = 107.8 in <sup>4</sup> /ft			φM <sub>no</sub> = 77.6 kip-in/ft				φV <sub>n</sub> = 4.28 kip/ft			

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
16	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>															
	ASD, W/Ω	855	778	713	658	611	570	535	497	419	356	305	264	230	201	177
	LRFD, φW	1711	1555	1426	1316	1219	1056	922	812	719	641	574	516	466	423	385
	L/360	-	-	-	-	-	-	-	497	419	356	305	264	230	201	177
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>															
	Arc Spot Weld 1/2" Effective Dia	3584	3446	3331	3300	3212	3136	3069	3010	2958	2956	2911	2871	2835	2801	2771
	PAF Base Steel ≥ .25"	2904	2828	2765	2777	2727	2683	2644	2610	2580	2598	2572	2548	2526	2506	2488
	PAF Base Steel ≥ 0.125"	2831	2761	2703	2721	2674	2633	2598	2567	2539	2560	2535	2513	2492	2474	2457
	#12 Screw Base Steel ≥ .0385"	2839	2770	2712	2729	2682	2642	2606	2575	2547	2568	2543	2521	2501	2482	2465
	Concrete + Deck = 37.9 psf (l <sub>cr</sub> +l <sub>u</sub> )/2 = 98.88 in <sup>4</sup> /ft						l <sub>cr</sub> = 83.7 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 60.7 kip-in/ft				V <sub>r</sub> /Ω = 2.14 kip/ft		
						l <sub>u</sub> = 114.0 in <sup>4</sup> /ft			φM <sub>no</sub> = 92.9 kip-in/ft				φV <sub>n</sub> = 4.28 kip/ft			

All Gages	LRFD - Diaphragm Shear, φS <sub>n</sub> (plf / ft) for all vertical load spans, WWF Designation or Area of Steel per foot width					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A <sub>s</sub> = 0.028 in <sup>2</sup> /ft	A <sub>s</sub> = 0.058 in <sup>2</sup> /ft	A <sub>s</sub> = 0.080 in <sup>2</sup> /ft	A <sub>s</sub> = 0.120 in <sup>2</sup> /ft	A <sub>s</sub> = 0.180 in <sup>2</sup> /ft
	6 in o.c.	n/a	4990	5980	7780	10480
12 in o.c.	n/a	4990	5980	7780	10480	
18 in o.c.	n/a	4990	5980	7780	8790	

# 4.4 BH-36 Composite Deck

5 1/16" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.452yd<sup>3</sup>/100ft<sup>2</sup>

3 Hour Fire Rating



Maximum Unshored Span (in)

Gage	Single	Double	Triple	Gage	Single	Double	Triple
22	6' - 0"	6' - 6"	7' - 1"	18	8' - 2"	9' - 8"	10' - 2"
20	7' - 2"	7' - 10"	8' - 5"	16	8' - 10"	10' - 10"	10' - 11"

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"		
22	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																	
	ASD, W/Ω	1097	933	778	658	563	486	423	371	327	290	259	231	208	187	169		
	LRFD, φW	1817	1492	1245	1053	901	778	677	594	524	464	414	370	333	300	271		
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																	
	Arc Spot Weld 1/2" Effective Dia	3396	3332	3279	3251	3211	3177	3146	3120	3096	3086	3067	3049	3033	3018	3005		
	PAF Base Steel ≥ .25"	3081	3046	3016	3008	2986	2966	2949	2934	2921	2920	2909	2899	2890	2881	2873		
	PAF Base Steel ≥ 0.125"	3056	3023	2996	2989	2968	2950	2934	2920	2907	2907	2897	2887	2878	2870	2863		
	#12 Screw Base Steel ≥ .0385"	3034	3003	2977	2972	2952	2935	2920	2907	2895	2896	2886	2876	2868	2861	2854		
	Concrete + Deck = 44.9 psf (l <sub>cr</sub> +l <sub>o</sub> )/2 = 128.9 in <sup>4</sup> /ft				I <sub>cr</sub> = 89.2 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 45.9 kip-in/ft			V <sub>r</sub> /Ω = 2.74 kip/ft			φM <sub>no</sub> = 70.2 kip-in/ft			φV <sub>n</sub> = 5.49 kip/ft	

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"		
20	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																	
	ASD, W/Ω	1097	997	914	778	666	576	502	441	389	346	309	277	249	225	204		
	LRFD, φW	2140	1759	1469	1244	1065	921	803	705	623	554	494	443	399	361	327		
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																	
	Arc Spot Weld 1/2" Effective Dia	3547	3469	3404	3373	3324	3282	3245	3212	3183	3174	3150	3128	3108	3090	3073		
	PAF Base Steel ≥ .25"	3162	3119	3083	3077	3049	3026	3005	2986	2970	2971	2957	2945	2933	2922	2913		
	PAF Base Steel ≥ 0.125"	3133	3093	3059	3055	3029	3006	2986	2969	2953	2956	2943	2931	2920	2910	2901		
	#12 Screw Base Steel ≥ .0385"	3108	3070	3038	3036	3011	2990	2971	2954	2940	2943	2930	2919	2909	2899	2890		
	Concrete + Deck = 45.2 psf (l <sub>cr</sub> +l <sub>o</sub> )/2 = 137.9 in <sup>4</sup> /ft				I <sub>cr</sub> = 101.1 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 53.8 kip-in/ft			V <sub>r</sub> /Ω = 2.74 kip/ft			φM <sub>no</sub> = 82.3 kip-in/ft			φV <sub>n</sub> = 5.49 kip/ft	

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"		
18	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																	
	ASD, W/Ω	1097	997	914	844	784	731	646	568	503	448	401	361	326	295	268		
	LRFD, φW	2194	1995	1829	1594	1367	1184	1034	909	805	717	642	577	521	472	429		
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																	
	Arc Spot Weld 1/2" Effective Dia	3859	3752	3663	3630	3562	3503	3452	3407	3367	3359	3326	3295	3267	3242	3219		
	PAF Base Steel ≥ .25"	3331	3272	3223	3224	3185	3152	3122	3096	3074	3082	3062	3044	3027	3012	2999		
	PAF Base Steel ≥ 0.125"	3293	3237	3191	3194	3158	3126	3098	3074	3052	3062	3043	3026	3010	2996	2983		
	#12 Screw Base Steel ≥ .0385"	3266	3213	3169	3174	3139	3108	3082	3058	3037	3048	3029	3013	2998	2984	2972		
	Concrete + Deck = 45.9 psf (l <sub>cr</sub> +l <sub>o</sub> )/2 = 153.4 in <sup>4</sup> /ft				I <sub>cr</sub> = 121.2 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 68.3 kip-in/ft			V <sub>r</sub> /Ω = 2.74 kip/ft			φM <sub>no</sub> = 104.5 kip-in/ft			φV <sub>n</sub> = 5.49 kip/ft	

GA	Vertical Load Span (in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"		
16	<b>ASD &amp; LRFD - Superimposed Load, W (psf)</b>																	
	ASD, W/Ω	1097	997	914	844	784	731	686	645	610	546	489	441	388	340	299		
	LRFD, φW	2194	1995	1829	1688	1567	1436	1255	1105	980	874	783	705	637	578	527		
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	388	340	299		
	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) 36/4 Attachment Pattern</b>																	
	Arc Spot Weld 1/2" Effective Dia	4191	4053	3939	3907	3819	3743	3676	3617	3565	3563	3519	3479	3442	3409	3378		
	PAF Base Steel ≥ .25"	3512	3436	3373	3385	3334	3290	3252	3218	3188	3206	3179	3155	3134	3114	3095		
	PAF Base Steel ≥ 0.125"	3438	3369	3311	3328	3281	3241	3206	3174	3147	3167	3143	3120	3100	3082	3065		
	#12 Screw Base Steel ≥ .0385"	3447	3377	3320	3337	3290	3249	3214	3183	3155	3175	3151	3128	3108	3090	3073		
	Concrete + Deck = 46.5 psf (l <sub>cr</sub> +l <sub>o</sub> )/2 = 167.4 in <sup>4</sup> /ft				I <sub>cr</sub> = 138.9 in <sup>4</sup> /ft			M <sub>no</sub> /Ω = 82.2 kip-in/ft			V <sub>r</sub> /Ω = 2.74 kip/ft			φM <sub>no</sub> = 125.8 kip-in/ft			φV <sub>n</sub> = 5.49 kip/ft	

All Gages	<b>LRFD - Diaphragm Shear, φS<sub>n</sub> (plf / ft) for all vertical load spans, WWF Designation or Area of Steel per foot width</b>																
	3/4" Welded Shear Studs	6x6 W1.4xW1.4				6x6 W2.9xW2.9				6x6 W4.0xW4.0				4x4 W4xW4		4x4 W6xW6	
		A <sub>s</sub> = 0.028 in <sup>2</sup> /ft				A <sub>s</sub> = 0.058 in <sup>2</sup> /ft				A <sub>s</sub> = 0.080 in <sup>2</sup> /ft				A <sub>s</sub> = 0.120 in <sup>2</sup> /ft		A <sub>s</sub> = 0.180 in <sup>2</sup> /ft	
	6 in o.c.	n/a				5680				6670				8470		11170	
	12 in o.c.	n/a				5680				6670				8470		11170	
18 in o.c.	n/a				5680				6670				8470		8790		