

Design Value

Product	Layup combination	Flexural Stress F_b (psi) ²		Compression Perpendicular to grain F_c (psi)	Shear F_v (psi) ³	MOE (10 ⁶ psi)	
		Tension Zone	Compression Zone			Apparent	True
Big Beam DF	30F-E/DF2	3000	3000	650	265*	2.1	2.2

* On 9¼" depth $F_v=255$ (psi)

30F-E/DF2, Dry-Use

$F_b = 3,000$ psi, $F_c = 3,000$ psi, $F_v = 265$ psi, $E = 2.1 \times 10^6$ psi, $F_{cp} = 650$ psi

Width	Depth (in)	Weight (lb / ft)	Maximum Resistive Shear (lbf)			Maximum Resistive Moment (ft-lbf)			EI (10 ⁶ in ² -lb)
			100%	115%	125%	100%	115%	125%	
3½"	9¼	8.35	5,504	6,329	6,880	12,478	14,350	15,597	485
	9½	8.56	5,874	6,755	7,343	13,161	15,136	16,452	525
	11¼	10.06	6,956	8,000	8,695	18,457	21,226	23,071	872
	11⅝	10.59	7,343	8,444	9,178	20,565	23,649	25,706	1,026
	14	12.41	8,657	9,955	10,821	28,583	32,871	35,729	1,681
	16	14.11	9,893	11,377	12,367	37,333	42,933	46,667	2,509
	18	15.82	11,130	12,800	13,913	47,250	54,338	59,063	3,572
	20	17.53	12,367	14,222	15,458	58,333	67,083	72,917	4,900
	22	19.24	13,603	15,644	17,004	70,583	81,171	88,229	6,522
	24	20.94	14,840	17,066	18,550	84,000	96,600	105,000	8,467
5½"	9¼	12.96	8,649	9,946	10,811	19,608	22,549	24,510	762
	9½	13.29	9,231	10,615	11,539	20,682	23,785	25,853	825
	11¼	15.64	10,931	12,571	13,664	29,004	33,354	36,255	1,370
	11⅝	16.48	11,539	13,269	14,423	32,316	37,163	40,395	1,612
	14	19.33	13,603	15,644	17,004	44,917	51,654	56,146	2,641
	16	22.01	15,547	17,879	19,433	58,667	67,467	73,333	3,942
	18	24.7	17,490	20,114	21,863	74,250	85,388	92,813	5,613
	20	27.38	19,433	22,348	24,292	91,667	105,417	114,583	7,700
	22	30.06	21,377	24,583	26,721	110,917	127,554	138,646	10,249
	24	32.75	23,320	26,818	29,150	132,000	151,800	165,000	13,306
7"	9¼	16.34	11,008	12,659	13,759	24,956	28,699	31,195	970
	9½	16.77	11,748	13,511	14,685	26,323	30,271	32,904	1,050
	11¼	19.75	13,913	15,999	17,391	36,914	42,451	46,143	1,744
	11⅝	20.82	14,685	16,888	18,357	41,130	47,299	51,412	2,051
	14	24.45	17,313	19,910	21,642	57,167	65,742	71,458	3,361
	16	27.87	19,787	22,755	24,733	74,667	85,867	93,333	5,018
	18	31.28	22,260	25,599	27,825	94,500	108,675	118,125	7,144
	20	34.7	24,733	28,443	30,917	116,667	134,167	145,833	9,800
	22	38.11	27,207	31,288	34,008	141,167	162,342	176,458	13,044
	24	41.53	29,680	34,132	37,100	168,000	193,200	210,000	16,934
	26	44.94	32,153	36,976	40,192	197,167	226,742	246,548	21,531

Notes for Big Beam DF Design Properties:

1. Beam weight is assumed to be 36.4 pcf
2. Maximum resistive moment shall be adjusted by the volume factor based on NDS-15
3. On 9¼" depth $F_v = 255$ (psi)