



**Hammer Energy Output and Pile Bearing Chart
J&M Model 345 Hydraulic Impact Hammer**

The energy output is based on the identical Piston/Travel calculations utilized in the **FHWA Gates Formula**. The pile bearing chart is based on the FHWA Gates Formula for pile bearing and is provided for the user's convenience only.

$$\text{Pile Bearing (tons)} = ((1.75 * \text{SQRT "E" LOG}_{10} * 10N) - 100) / 2$$

E = Developed Energy and N = Number of Blows Per Inch

APE has no preference for these particular formulas and calculations over any other.



Ram Weight(lbs): **34,500**

Stroke (in.)	Energy (ft-lbs)	Pile Set (Blows per inch)																		
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
4	11,385	71	88	100	109	116	122	128	132	137	141	144	147	150	153	156	158	161	163	165
6	17,250	100	120	134	145	154	162	169	175	180	185	189	193	197	200	203	206	209	212	214
8	23,115	123	147	163	176	187	195	203	210	216	222	227	231	236	239	243	247	250	253	256
10	28,635	143	169	187	202	213	223	232	239	246	252	258	263	268	272	276	280	284	287	291
12	34,500	161	190	210	226	239	250	259	268	275	282	288	294	299	304	308	313	317	320	324
14	40,365	179	210	232	249	263	274	285	294	302	309	316	322	327	333	337	342	346	351	355
16	45,885	194	227	250	268	283	296	307	316	325	333	340	346	352	358	363	368	373	377	381
18	51,750	209	244	269	288	304	317	329	339	348	356	364	371	377	383	389	394	399	404	408
20	57,615	223	260	286	307	323	338	350	360	370	379	387	394	401	407	413	418	424	429	433
22	63,135	236	275	302	324	341	356	368	380	390	399	407	415	422	428	435	440	446	451	456
24	69,000	249	290	318	340	359	374	387	399	410	419	428	436	443	450	457	463	468	474	479
26	74,865	261	304	334	357	376	392	406	418	429	439	448	456	464	471	478	484	490	496	501
28	80,385	273	316	347	371	391	408	422	435	446	456	466	474	482	490	497	503	509	515	521
30	86,250	284	330	362	387	407	424	439	452	464	475	484	493	501	509	516	523	530	536	541
32	92,115	296	342	375	401	422	440	455	469	481	492	502	511	520	528	535	542	549	555	561
34	97,635	306	354	388	415	436	454	470	484	497	508	518	528	537	545	553	560	567	573	579
36	103,500	316	366	401	428	451	469	486	500	513	525	535	545	554	563	570	578	585	591	598
38	109,365	326	377	414	442	465	484	501	515	529	541	552	562	571	580	588	595	603	609	616
40	114,885	336	388	425	454	477	497	514	530	543	555	567	577	586	595	604	612	619	626	632
42	120,750	346	399	437	467	491	511	529	544	558	571	582	593	603	612	620	628	636	643	650
44	126,615	355	410	449	479	504	524	543	558	573	586	597	608	618	628	636	644	652	659	666
46	131,790	363	419	459	490	515	536	555	571	585	598	610	621	632	641	650	659	666	674	681
48	138,000	373	430	471	502	528	550	569	585	600	614	626	637	648	657	666	675	683	691	698