



(800) 248-8498

Hammer Energy Output and Pile Bearing Chart APE Model 15-4 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): 30,000

Stroke (feet)	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
0.25	7,500	49	62	71	79	85	90	94	98	102	105	108	110	113	115	117	119	121	123	124
0.50	15,000	89	108	122	132	141	148	154	159	164	169	173	177	180	183	186	189	192	194	197
0.75	22,500	121	144	160	173	183	192	200	206	213	218	223	227	232	236	239	243	246	249	252
1.00	30,000	147	174	193	207	219	230	238	246	253	259	265	270	275	280	284	288	292	295	299
1.25	37,500	170	200	221	238	251	263	272	281	289	296	302	308	314	319	323	328	332	336	340
1.50	45,000	191	224	247	265	280	292	303	313	321	329	336	342	348	354	359	364	369	373	377
1.75	52,500	211	246	271	291	306	320	332	342	351	359	367	374	380	386	392	397	402	407	411
2.00	60,000	229	267	293	314	331	345	358	369	379	388	396	403	410	416	422	428	433	438	443
2.25	67,500	246	286	314	336	354	369	383	394	405	414	423	431	438	445	451	457	463	468	473
2.50	75,000	262	304	334	357	376	392	406	418	429	439	448	457	464	471	478	484	490	496	501
2.75	82,500	277	321	353	377	397	414	428	441	453	463	473	481	489	497	504	511	517	523	528
3.00	90,000	292	338	371	396	417	434	450	463	475	486	496	505	513	521	529	535	542	548	554
3.25	97,500	305	354	388	414	436	454	470	484	496	508	518	528	536	545	552	559	566	573	579
3.50	105,000	319	369	404	432	454	473	490	504	517	529	540	549	558	567	575	582	589	596	602
3.75	112,500	332	384	420	449	472	492	509	524	537	549	560	570	580	589	597	605	612	619	625
4.00	120,000	344	398	436	465	489	509	527	542	556	569	580	591	601	610	618	626	634	641	647

Refusal for APE Hydraulic Impact Hammers is 10 blows per inch Maximum