



(800) 248-8498

Hammer Energy Output and Pile Bearing Chart APE Model 6-4 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): 12,000

Stroke (feet)	Energy (ft-lbs)	Pile Set (Blows per inch)																		
		<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>
0.25	3,000	12	21	27	31	35	38	41	44	46	48	50	51	53	54	56	57	58	59	60
0.50	6,000	38	50	59	65	71	75	79	82	86	88	91	93	95	97	99	101	103	104	106
0.75	9,000	58	73	83	91	98	103	108	112	116	119	123	125	128	131	133	135	137	139	141
1.00	12,000	75	92	104	113	120	127	132	137	142	146	149	153	156	159	161	164	166	168	171
1.25	15,000	89	108	122	132	141	148	154	159	164	169	173	177	180	183	186	189	192	194	197
1.50	18,000	103	123	138	149	159	167	173	179	185	190	194	198	202	205	209	212	215	218	220
1.75	21,000	115	137	153	165	175	184	191	198	204	209	214	218	222	226	229	233	236	239	242
2.00	24,000	126	150	167	180	191	200	208	215	221	227	232	237	241	245	249	252	256	259	262
2.25	27,000	137	162	180	194	206	215	224	231	238	244	249	254	259	263	267	271	274	278	281
2.50	30,000	147	174	193	207	219	230	238	246	253	259	265	270	275	280	284	288	292	295	299
2.75	33,000	157	185	205	220	233	243	252	261	268	274	280	286	291	296	300	305	308	312	316
3.00	36,000	166	195	216	232	245	256	266	274	282	289	295	301	306	311	316	320	324	328	332
3.25	39,000	175	205	227	244	257	269	279	288	296	303	309	315	321	326	331	335	340	344	348
3.50	42,000	183	215	237	255	269	281	291	300	309	316	323	329	335	340	345	350	354	359	363
3.75	45,000	191	224	247	265	280	292	303	313	321	329	336	342	348	354	359	364	369	373	377
4.00	48,000	199	233	257	276	291	304	315	325	333	341	349	355	361	367	373	378	382	387	391

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