



**(800) 248-8498**

## Diesel Hammer Energy Output and Pile Bearing Chart

### APE Model D19-42 Diesel 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.

$$\text{Pile Bearing (tons)} = ((1.75 * \text{SQRT "E" LOG10} * 10N) - 100) / 2000$$

*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): 4,190

Blows (per minute)	Stroke (ft)	Energy (ft-lbs)	Pile Set (Blows per inch) *Measured in Tons																		
			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
60	4.00	16,760	97	117	131	142	151	159	166	171	177	181	186	189	193	197	200	203	205	208	211
59	4.17	17,472	100	121	135	147	156	163	170	176	181	186	190	194	198	202	205	208	211	214	216
58	4.33	18,143	103	124	139	150	160	167	174	180	186	191	195	199	203	206	210	213	216	219	221
57	4.50	18,855	106	127	142	154	164	172	179	185	190	195	200	204	208	211	215	218	221	224	226
56	4.67	19,567	109	131	146	158	168	176	183	189	195	200	204	209	213	216	220	223	226	229	232
55	4.83	20,238	112	134	149	161	171	180	187	193	199	204	209	213	217	221	224	228	231	234	236
54	5.00	20,950	115	137	153	165	175	184	191	198	203	209	213	218	222	226	229	232	236	239	241
53	5.17	21,662	118	140	156	169	179	188	195	202	208	213	218	222	226	230	234	237	240	243	246
52	5.33	22,333	120	143	159	172	183	191	199	206	212	217	222	226	231	235	238	242	245	248	251
51	5.50	23,045	123	146	163	176	186	195	203	210	216	221	226	231	235	239	243	246	250	253	256
50	5.75	24,093	127	151	168	181	192	201	208	215	222	227	232	237	241	246	249	253	256	259	263
49	6.00	25,140	131	155	172	186	197	206	214	221	227	233	238	243	248	252	256	259	263	266	269
48	6.25	26,188	134	159	177	191	202	211	219	227	233	239	244	249	254	258	262	266	269	273	276
47	6.50	27,235	138	163	181	195	207	216	225	232	239	245	250	255	260	264	268	272	276	279	282
46	6.83	28,618	143	169	187	201	213	223	232	239	246	252	258	263	268	272	276	280	284	287	291
45	7.17	30,042	147	174	193	208	220	230	239	246	253	260	265	271	275	280	284	288	292	296	299
44	7.50	31,425	152	179	198	214	226	236	245	253	260	267	273	278	283	288	292	296	300	303	307
43	7.83	32,808	156	184	204	219	232	242	252	260	267	274	280	285	290	295	299	303	307	311	315
42	8.17	34,232	161	189	209	225	238	249	258	266	274	280	287	292	297	302	307	311	315	319	323
41	8.58	35,950	166	195	216	232	245	256	266	274	282	289	295	301	306	311	316	320	324	328	332
40	9.00	37,710	171	201	222	239	252	264	273	282	290	297	303	309	315	320	325	329	333	337	341
39	9.50	39,805	177	208	230	247	260	272	282	291	299	306	313	319	325	330	335	339	344	348	352
38	10.00	41,900	183	215	237	254	268	280	291	300	308	316	322	329	334	340	345	349	354	358	362
37	10.50	43,995	189	221	244	262	276	289	299	309	317	325	332	338	344	349	355	359	364	368	372
36	11.17	46,802	196	230	253	272	287	299	310	320	329	336	344	350	356	362	367	372	377	381	386