



(800) 248-8498

Hammer Energy Output and Pile Bearing Chart APE Model 10-4 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): 20,000

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	5,000	30	41	49	55	60	64	68	71	74	76	79	81	83	85	86	88	90	91	92
0.50	10,000	64	79	90	99	106	111	117	121	125	129	132	135	138	140	143	145	147	149	151
0.75	15,000	89	108	122	132	141	148	154	159	164	169	173	177	180	183	186	189	192	194	197
1.00	20,000	111	133	148	160	170	178	185	192	197	203	207	212	216	219	223	226	229	232	235
1.25	25,000	130	154	172	185	196	205	213	220	227	232	238	242	247	251	255	259	262	265	268
1.50	30,000	147	174	193	207	219	230	238	246	253	259	265	270	275	280	284	288	292	295	299
1.75	35,000	163	192	212	228	241	252	262	270	277	284	290	296	301	306	311	315	319	323	327
2.00	40,000	178	208	230	247	261	273	283	292	300	307	314	320	326	331	336	340	345	349	353
2.25	45,000	191	224	247	265	280	292	303	313	321	329	336	342	348	354	359	364	369	373	377
2.50	50,000	205	239	263	282	298	311	322	332	341	349	357	364	370	376	381	386	391	396	400
2.75	55,000	217	253	279	299	315	329	341	351	360	369	377	384	390	397	402	408	413	418	422
3.00	60,000	229	267	293	314	331	345	358	369	379	388	396	403	410	416	422	428	433	438	443
3.25	65,000	240	280	307	329	347	362	375	386	396	405	414	422	429	435	442	448	453	458	463
3.50	70,000	251	292	321	343	362	377	391	402	413	423	431	439	447	454	460	466	472	478	483
3.75	75,000	262	304	334	357	376	392	406	418	429	439	448	457	464	471	478	484	490	496	501
4.00	80,000	272	316	346	370	390	407	421	434	445	455	465	473	481	489	495	502	508	514	519

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