



(800) 248-8498

Diesel Hammer Energy Output and Pile Bearing Chart

APE Model D220-42 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.
 Pile Bearing (tons) = $((1.75 * \text{SQRT "E" LOG}_{10} * 10N) - 100) / 2000$

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): 48,510

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	194,040	451	519	567	605	635	661	684	703	721	737	751	765	777	789	800	810	819	828	837
59	4.17	202,287	462	531	580	619	650	676	699	719	737	753	768	782	795	806	817	828	838	847	856
58	4.33	210,048	472	542	592	631	663	690	713	734	752	769	784	798	811	823	834	844	854	864	873
57	4.50	218,295	482	554	605	645	677	704	728	749	768	785	800	814	827	840	851	862	872	882	891
56	4.67	226,542	492	565	617	658	691	718	743	764	783	800	816	830	844	856	868	879	889	899	908
55	4.83	234,303	501	576	629	670	703	731	756	778	797	815	831	845	859	872	884	895	905	915	925
54	5.00	242,550	511	587	640	682	716	745	770	792	812	830	846	861	875	888	900	911	922	932	942
53	5.17	250,797	520	597	652	694	729	759	784	806	826	845	861	876	890	904	916	927	938	949	958
52	5.33	258,558	529	607	663	706	741	771	797	819	840	858	875	891	905	918	931	942	953	964	974
51	5.50	266,805	538	618	674	718	754	784	810	833	854	873	890	905	920	934	946	958	969	980	990
50	5.75	278,933	551	633	690	735	772	803	829	853	874	893	911	927	942	956	969	981	992	1003	1013
49	6.00	291,060	564	647	706	752	789	821	848	873	894	914	932	948	963	977	990	1003	1015	1026	1036
48	6.25	303,188	577	662	722	769	807	839	867	892	914	934	952	968	984	998	1012	1025	1037	1048	1059
47	6.50	315,315	589	676	737	785	824	857	885	910	933	953	972	989	1004	1019	1033	1046	1058	1070	1081
46	6.83	331,323	605	694	757	806	846	879	909	934	957	978	997	1015	1031	1046	1060	1073	1086	1098	1109
45	7.17	347,817	621	712	777	827	868	902	932	958	982	1003	1023	1041	1057	1073	1087	1101	1114	1126	1137
44	7.50	363,825	637	730	796	847	888	924	954	981	1006	1027	1047	1066	1083	1099	1113	1127	1140	1153	1164
43	7.83	379,833	652	747	814	866	909	945	976	1004	1029	1051	1071	1090	1107	1123	1139	1153	1166	1179	1191
42	8.17	396,327	667	764	832	886	929	966	998	1026	1052	1075	1095	1114	1132	1149	1164	1179	1192	1205	1218
41	8.58	416,216	684	784	854	909	954	992	1024	1053	1079	1102	1124	1143	1161	1178	1194	1209	1223	1236	1249
40	9.00	436,590	702	804	876	932	978	1017	1050	1080	1106	1130	1152	1172	1191	1208	1224	1240	1254	1267	1280
39	9.50	460,845	723	827	902	959	1006	1046	1080	1111	1138	1163	1185	1206	1225	1243	1259	1275	1290	1304	1317
38	10.00	485,100	743	850	926	985	1034	1074	1110	1141	1169	1194	1217	1238	1258	1276	1293	1309	1324	1339	1352
37	10.50	509,355	762	872	950	1011	1060	1102	1138	1170	1199	1225	1248	1270	1290	1309	1326	1343	1358	1373	1387
36	11.17	541,857	788	901	982	1044	1095	1138	1176	1209	1238	1265	1289	1312	1332	1352	1370	1387	1403	1418	1432