



(800) 248-8498

Diesel Hammer Energy Output and Pile Bearing Chart

APE Model D160-42 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): 35,280

Blows (per minute)	Stroke (ft)	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
60	4.00	141,120	378	436	477	508	534	556	576	592	607	621	633	645	655	665	674	683	691	699	706
59	4.17	147,118	387	446	488	520	547	569	589	606	621	635	648	659	670	680	690	699	707	715	722
58	4.33	152,762	395	455	498	531	558	581	601	618	634	648	661	673	684	694	704	713	721	729	737
57	4.50	158,760	404	465	509	542	570	593	613	631	647	662	675	687	698	709	718	728	736	744	752
56	4.67	164,758	412	475	519	553	582	605	626	644	660	675	688	701	712	723	733	742	751	759	767
55	4.83	170,402	420	484	529	564	592	616	637	656	672	687	701	714	725	736	746	756	765	773	781
54	5.00	176,400	428	493	539	574	603	628	649	668	685	700	714	727	739	750	760	770	779	787	796
53	5.17	182,398	436	502	549	585	614	640	661	680	697	713	727	740	752	763	774	784	793	802	810
52	5.33	188,042	444	510	558	595	625	650	672	692	709	725	739	752	764	776	786	796	806	815	823
51	5.50	194,040	451	519	567	605	635	661	684	703	721	737	751	765	777	789	800	810	819	828	837
50	5.75	202,860	463	532	581	620	651	677	700	720	738	755	769	783	796	808	819	829	839	848	857
49	6.00	211,680	474	545	595	634	666	693	716	737	755	772	787	801	814	826	837	848	858	867	876
48	6.25	220,500	485	557	608	648	681	708	732	753	772	789	804	819	832	844	856	866	877	886	895
47	6.50	229,320	495	569	621	662	695	723	747	769	788	805	821	836	849	862	874	885	895	905	914
46	6.83	240,962	509	584	638	680	714	743	767	789	809	827	843	858	872	885	897	908	919	929	938
45	7.17	252,958	523	600	655	698	733	762	788	810	830	848	865	880	894	908	920	932	943	953	963
44	7.50	264,600	536	615	671	715	750	780	807	830	850	869	886	901	916	929	942	954	965	976	986
43	7.83	276,242	548	629	687	731	768	799	825	849	870	889	906	922	937	951	964	976	987	998	1008
42	8.17	288,238	561	644	703	748	785	817	844	868	890	909	927	943	958	972	985	998	1009	1020	1031
41	8.58	302,702	576	661	721	768	806	838	866	891	913	933	951	968	983	998	1011	1024	1036	1047	1058
40	9.00	317,520	591	678	740	788	827	860	888	914	936	957	975	992	1008	1023	1037	1050	1062	1074	1085
39	9.50	335,160	609	698	762	811	851	885	914	940	963	984	1003	1021	1037	1052	1067	1080	1092	1104	1116
38	10.00	352,800	626	718	783	833	874	909	939	966	989	1011	1031	1049	1065	1081	1096	1109	1122	1134	1146
37	10.50	370,440	643	737	803	855	897	933	964	991	1015	1037	1057	1076	1093	1109	1124	1138	1151	1164	1175
36	11.17	394,078	665	761	830	883	927	963	995	1023	1049	1071	1092	1111	1129	1145	1161	1175	1189	1202	1214