



(800) 248-8498

Diesel Hammer Energy Output and Pile Bearing Chart

APE Model D180-42 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.

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

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): 39,690

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	158,760	404	465	509	542	570	593	613	631	647	662	675	687	698	709	718	728	736	744	752
59	4.17	165,507	413	476	520	555	583	607	627	646	662	677	690	703	714	725	735	744	753	761	769
58	4.33	171,858	422	486	531	566	595	619	640	659	675	690	704	717	728	739	750	759	768	777	785
57	4.50	178,605	431	496	542	578	608	632	654	673	690	705	719	732	744	755	765	775	784	793	801
56	4.67	185,352	440	506	554	590	620	645	667	686	703	719	733	746	758	770	780	790	800	808	817
55	4.83	191,703	448	516	564	601	631	657	679	699	716	732	747	760	772	784	794	805	814	823	832
54	5.00	198,450	457	526	574	612	643	669	692	712	730	746	760	774	787	798	809	819	829	838	847
53	5.17	205,197	466	535	585	623	655	681	704	725	743	759	774	788	801	813	824	834	844	853	862
52	5.33	211,548	474	544	595	634	666	693	716	736	755	772	787	801	814	826	837	848	858	867	876
51	5.50	218,295	482	554	605	645	677	704	728	749	768	785	800	814	827	840	851	862	872	882	891
50	5.75	228,218	494	567	620	660	693	721	746	767	786	803	819	834	847	860	871	882	893	903	912
49	6.00	238,140	506	581	634	675	709	738	763	784	804	822	838	853	866	879	891	902	913	923	933
48	6.25	248,063	517	594	648	690	725	754	779	802	822	840	856	871	885	898	911	922	933	943	953
47	6.50	257,985	528	606	662	705	740	770	796	819	839	857	874	890	904	917	930	941	952	963	973
46	6.83	271,083	543	623	680	724	760	791	817	840	861	880	897	913	928	941	954	966	977	988	998
45	7.17	284,577	557	639	698	743	780	811	838	862	884	903	921	937	952	966	979	991	1003	1014	1024
44	7.50	297,675	571	655	715	761	799	831	859	883	905	925	943	959	975	989	1002	1015	1027	1038	1049
43	7.83	310,773	585	671	731	779	817	850	878	903	926	946	964	981	997	1011	1025	1038	1050	1062	1072
42	8.17	324,267	598	686	748	797	836	869	898	924	947	967	986	1003	1019	1034	1048	1061	1074	1085	1097
41	8.58	340,540	614	704	768	818	858	892	922	948	971	992	1012	1029	1046	1061	1075	1089	1102	1114	1125
40	9.00	357,210	630	722	788	838	880	915	945	972	996	1018	1037	1056	1072	1088	1103	1116	1129	1142	1153
39	9.50	377,055	649	744	811	863	905	941	973	1000	1025	1047	1067	1086	1103	1119	1134	1148	1162	1174	1186
38	10.00	396,900	667	764	833	887	930	967	999	1027	1053	1075	1096	1115	1133	1150	1165	1180	1193	1206	1218
37	10.50	416,745	685	784	855	910	954	992	1025	1054	1080	1103	1124	1144	1162	1179	1195	1210	1224	1237	1250
36	11.17	443,337	708	811	883	940	986	1025	1059	1089	1115	1139	1161	1182	1200	1218	1234	1249	1264	1278	1291