



(800) 248-8498

Diesel Hammer Energy Output and Pile Bearing Chart

APE Model D138-42 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): 30,429

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	121,716	347	401	439	469	493	513	531	547	561	573	585	595	605	614	623	631	638	646	652
59	4.17	126,889	356	410	449	480	504	525	543	559	573	586	598	609	619	628	637	645	653	660	667
58	4.33	131,758	363	419	459	490	515	536	554	571	585	598	610	621	632	641	650	658	666	674	681
57	4.50	136,931	371	428	469	500	526	547	566	583	598	611	623	634	645	655	664	672	680	688	695
56	4.67	142,103	379	437	478	510	537	559	578	595	610	623	636	647	658	668	677	686	694	702	709
55	4.83	146,972	386	445	487	520	546	569	588	606	621	635	647	659	670	680	689	698	707	714	722
54	5.00	152,145	394	454	497	530	557	580	600	617	633	647	660	671	682	693	702	711	720	728	735
53	5.17	157,318	402	463	506	540	567	590	610	628	644	658	672	684	695	705	715	724	733	741	749
52	5.33	162,187	408	471	515	549	577	600	621	639	655	669	683	695	706	717	727	736	745	753	761
51	5.50	167,360	416	479	523	558	587	610	631	650	666	681	694	707	718	729	739	748	757	766	774
50	5.75	174,967	426	491	536	572	601	625	647	665	682	697	711	724	735	746	757	766	775	784	792
49	6.00	182,574	436	502	549	585	615	640	662	681	698	713	727	740	752	764	774	784	793	802	810
48	6.25	190,181	446	514	561	598	629	654	676	696	713	729	743	757	769	780	791	801	811	820	828
47	6.50	197,789	456	525	573	611	642	668	691	710	728	744	759	773	785	797	808	818	828	837	845
46	6.83	207,830	469	539	589	628	659	686	709	730	748	764	779	793	806	818	829	840	850	859	868
45	7.17	218,176	482	554	605	644	677	704	728	749	767	784	800	814	827	839	851	862	872	881	890
44	7.50	228,218	494	567	620	660	693	721	746	767	786	803	819	834	847	860	871	882	893	903	912
43	7.83	238,259	506	581	634	676	709	738	763	785	804	822	838	853	867	879	891	903	913	923	933
42	8.17	248,605	518	594	649	691	726	755	780	803	823	841	857	872	886	899	912	923	934	944	954
41	8.58	261,081	532	610	666	710	745	775	801	824	844	863	880	895	910	923	935	947	958	969	979
40	9.00	273,861	546	626	684	728	764	795	821	845	866	885	902	918	933	946	959	971	983	993	1004
39	9.50	289,076	562	645	704	749	787	818	845	869	891	910	928	945	960	974	987	999	1011	1022	1033
38	10.00	304,290	578	663	723	770	808	841	869	893	915	935	954	970	986	1000	1014	1027	1039	1050	1061
37	10.50	319,505	593	681	742	790	829	863	891	917	939	960	978	996	1011	1026	1040	1053	1065	1077	1088
36	11.17	339,892	614	704	767	817	857	891	921	947	970	991	1011	1028	1045	1060	1074	1088	1100	1112	1124