

Wheel Speed

Conversion Chart



Revolutions per minute for various diameters of abrasive wheels to give surface speed in feet per minute as indicated.

Dia. of Wheel in Inches	Surface Speed in Feet per Minute																			Dia. of Wheel in Inches
	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500	9,000	9,500	10,000	12,000	12,500	14,200	16,000	16,500	17,000	
	Revolutions per Minute																			
1	15,279	17,189	19,099	21,008	22,918	24,826	26,737	28,648	30,558	32,467	34,377	36,287	38,197	45,837	47,746	54,240	61,115	63,025	64,935	1
1 ½	10,186	11,459	12,732	14,006	15,279	16,552	17,825	19,099	20,372	21,645	22,918	24,192	25,465	30,558	31,831	36,160	40,744	42,017	43,290	1 ½
2	7,639	8,594	9,549	10,504	11,459	12,414	13,369	14,324	15,279	16,234	17,189	18,144	19,099	22,918	23,873	27,120	30,558	31,513	32,468	2
2 ½	6,112	6,875	7,639	8,403	9,167	9,931	10,695	11,459	12,223	12,987	13,751	14,515	15,279	18,335	19,099	21,696	24,446	25,210	25,974	2 ½
3	5,093	5,730	6,366	7,003	7,639	8,276	8,913	9,549	10,186	10,823	11,459	12,096	12,732	15,279	15,915	18,080	20,372	21,008	21,645	3
3 ½	4,365	4,911	5,457	6,002	6,548	7,094	7,639	8,185	8,731	9,276	9,822	10,368	10,913	13,096	13,642	15,497	17,462	18,007	18,553	3 ½
4	3,820	4,297	4,775	5,252	5,730	6,207	6,685	7,162	7,640	8,117	8,594	9,072	9,549	11,459	11,937	13,560	15,279	15,756	16,234	4
5	3,056	3,438	3,820	4,202	4,584	4,966	5,348	5,730	6,112	6,494	6,875	7,257	7,639	9,167	9,549	10,848	12,223	12,605	12,987	5
6	2,546	2,865	3,183	3,501	3,820	4,138	4,465	4,775	5,093	5,411	5,730	6,048	6,366	7,639	7,958	9,040	10,186	10,504	10,823	6
7	2,183	2,456	2,728	3,001	3,274	3,547	3,820	4,093	4,365	4,638	4,911	5,184	5,457	6,548	6,821	7,749	8,731	9,004	9,276	7
8	1,910	2,149	2,387	2,626	2,865	3,104	3,342	3,581	3,820	4,058	4,297	4,536	4,775	5,730	5,968	6,780	7,639	7,878	8,117	8
9	1,699	1,910	2,122	2,334	2,546	2,759	2,971	3,183	3,395	3,608	3,820	4,032	4,244	5,093	5,305	6,027	6,791	7,003	7,215	9
10	1,528	1,719	1,910	2,101	2,292	2,483	2,674	2,865	3,056	3,247	3,438	3,629	3,820	4,584	4,775	5,424	6,112	6,303	6,494	10
12	1,273	1,432	1,592	1,751	1,910	2,069	2,228	2,387	2,546	2,706	2,865	3,024	3,180	3,820	3,979	4,520	5,093	5,252	5,411	12
14	1,091	1,228	1,364	1,501	1,637	1,773	1,910	2,046	2,183	2,319	2,456	2,592	2,728	3,274	3,410	3,874	4,365	4,502	4,638	14
16	955	1,074	1,194	1,313	1,432	1,552	1,671	1,790	1,910	2,029	2,149	2,268	2,387	2,865	2,984	3,390	3,820	3,939	4,058	16
18	849	955	1,061	1,167	1,273	1,379	1,485	1,592	1,698	1,804	1,910	2,016	2,122	2,546	2,653	3,013	3,395	3,501	3,608	18
20	764	859	955	1,050	1,146	1,241	1,337	1,432	1,528	1,623	1,719	1,814	1,910	2,292	2,387	2,712	3,056	3,151	3,247	20
22	694	781	868	955	1,042	1,129	1,215	1,302	1,389	1,476	1,563	1,649	1,736	2,083	2,170	2,465	2,778	2,865	2,952	22
24	637	716	796	875	955	1,035	1,114	1,194	1,273	1,353	1,432	1,512	1,592	1,910	1,989	2,260	2,546	2,625	2,706	24
26	588	661	735	808	881	955	1,028	1,022	1,175	1,249	1,322	1,396	1,469	1,763	1,836	2,086	2,351	2,424	2,498	26
28	546	614	682	750	819	887	955	1,023	1,091	1,160	1,228	1,290	1,364	1,637	1,705	1,937	2,183	2,251	2,319	28
30	509	573	637	700	764	828	891	955	1,019	1,082	1,146	1,210	1,273	1,528	1,592	1,808	2,037	2,101	2,165	30
32	477	537	597	657	716	776	836	895	955	1,015	1,074	1,134	1,194	1,432	1,492	1,695	1,910	1,970	2,029	32
34	449	506	562	618	674	730	786	843	899	955	1,011	1,067	1,123	1,348	1,404	1,595	1,798	1,854	1,910	34
36	424	477	531	584	637	690	743	796	849	902	955	1,008	1,061	1,273	1,326	1,507	1,698	1,751	1,804	36
38	402	452	503	553	603	653	704	754	804	854	905	955	1,005	1,206	1,256	1,427	1,608	1,659	1,709	38
40	382	430	477	525	573	621	668	716	764	812	859	907	956	1,146	1,194	1,356	1,528	1,576	1,623	40
42	354	409	455	500	546	591	637	682	728	773	819	864	909	1,091	1,137	1,291	1,455	1,500	1,546	42
44	347	391	434	477	521	564	608	651	694	738	781	825	868	1,042	1,085	1,233	1,389	1,432	1,476	44
46	332	374	415	457	498	540	581	623	664	706	747	789	830	996	1,038	1,179	1,329	1,370	1,412	46
48	318	358	398	438	477	517	557	597	637	676	716	756	796	955	995	1,130	1,273	1,313	1,353	48
53	288	324	360	396	432	468	504	540	577	613	649	685	721	865	901	1,023	1,153	1,189	1,225	53
60	255	286	318	350	382	414	446	477	509	541	573	605	637	764	796	904	1,019	1,050	1,082	60
72	212	239	265	292	318	345	371	398	424	461	477	504	531	637	663	753	849	875	902	72

Note: "Centrifugal Force", which is the force that tends to rupture a given wheel when overspeeding, increases as the square of the velocity of that wheel. For example, the centrifugal force in a wheel running 5,500 surface feet per minute is 49 percent greater than in the same wheel running at 4,500 surface feet per minute, although the speed is actually only 22 percent greater.

For intermediate diameters not listed use the formula listed in Section 1.2.10 page 3 of ANSI B7.1 (SFPM) = .262 x wheel diam. in inches x r.p.m.) Note: SFPM ÷ 196.85 ÷ M/S (meters per second).

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