

Metrisches ISO-Gewinde

Grenzmaße für Feingewinde von 25 bis 52 mm Nenndurchmesser mit gebräuchlichen Toleranzfeldern

DIN
13
Teil 22

ISO metric fine threads from 25 to 52 mm diameter; limits

Ersatz für Ausgabe 02.73

Filetages métriques ISO à pas fin du diamètre de 25 à 52 mm; dimensions limits

Maße in mm

1 Anwendungsbereich

Diese Norm gilt für Metrisches ISO-Gewinde mit einem Grundprofil nach DIN 13 Teil 19. Die Grenzen für die Kernausrundung des Bolzensgewindes sind nach DIN 13 Teil 14 mit $R = 0,144 P = H/6$ für das Größtmaß und mit $R_{\min} = 0,125 P \approx H/7$ für das Kleinstmaß des Kerndurchmessers d_3 festgelegt.

Sie enthält Grenzmaße für Feingewinde von 25 bis 52 mm Gewinde-Nenndurchmesser mit gebräuchlichen Toleranzfeldern.

2 Grenzmaße

Die Grenzmaße der Feingewinde mit den gebräuchlichen Toleranzfeldern (siehe DIN 13 Teil 14) sind aus den Gewinde-Nennmaßen nach DIN 13 Teil 2 bis Teil 9 und den Abmaßen und Toleranzen nach DIN 13 Teil 15 errechnet worden. Grenzmaße für Gewinde nach Toleranzfeldern, die in dieser Norm nicht enthalten sind, können aus den Abmaßen nach DIN 13 Teil 27 errechnet werden.

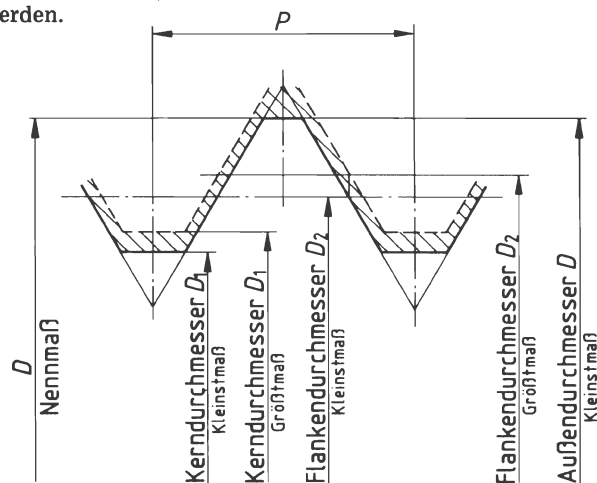


Bild 1. Muttergewinde in Toleranzlage H

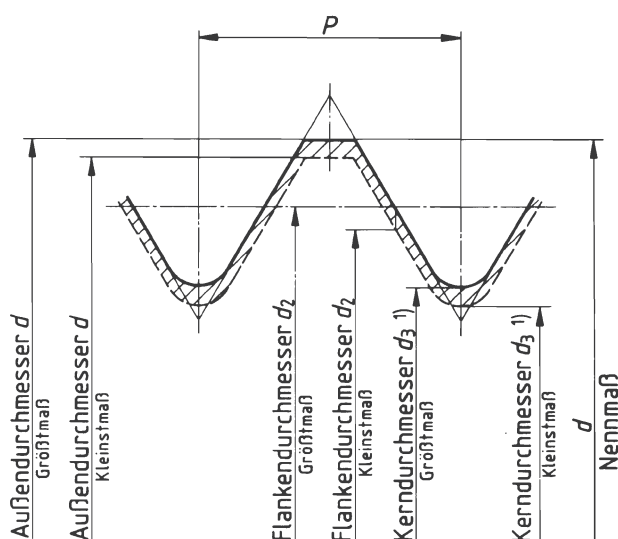


Bild 2. Bolzensgewinde in Toleranzlage h

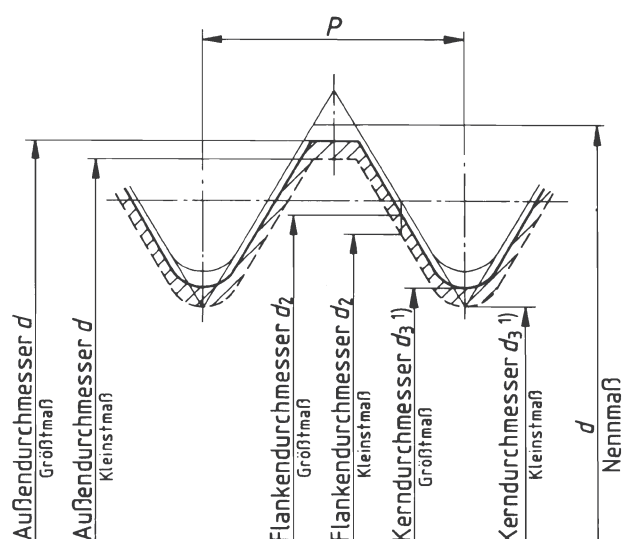


Bild 3. Bolzensgewinde in Toleranzlage g

1) Größtmaß mit $R = 0,144 P = H/6$, Kleinstmaß mit $R_{\min} = 0,125 P \approx H/7$ errechnet (siehe DIN 13 Teil 14)

Fortsetzung Seite 2 bis 11

Normenausschuß Gewinde (NGew) im DIN Deutsches Institut für Normung e.V.

Gewinde- Nenndurchmesser $d = D$	Steigung P	Toleranzfeld	Muttergewinde						Toleranzfeld	Bolzengewinde						
			Außen- durch- messer D	Flanken- durchmesser D_2		Kern- durchmesser D_1		Außen- durchmesser d		Flanken- durchmesser d_2		Kern- durchmesser ¹⁾ d_3				
				Kleinst- maß	Größt- maß	Kleinst- maß	Größt- maß			Größt- maß	Kleinst- maß	Größt- maß	Kleinst- maß			
25	0,35 0,35	4H	25,000	24,773	24,844	24,621	24,684	4h 6g	25,000 24,981	24,947 24,896	24,773 24,754	24,720 24,669	24,571 24,552	24,505 24,454		
	0,5 0,5	5H 6H	25,000 25,000	24,675 24,675	24,755 24,800	24,459 24,459	24,571 24,599	4h 6g	25,000 24,980	24,933 24,874	24,675 24,655	24,615 24,560	24,387 24,367	24,308 24,253		
	0,75 0,75 0,75	5H 6H 7H	25,000 25,000 25,000	24,513 24,513 24,513	24,631 24,663 24,703	24,188 24,188 24,188	24,338 24,378 24,424	4h 6g	25,000 24,978	24,910 24,838	24,513 24,491	24,442 24,379	24,080 24,058	23,980 23,917		
	1 1 1	5H 6H 7H	25,000 25,000 25,000	24,350 24,350 24,350	24,482 24,520 24,562	23,917 23,917 23,917	24,107 24,153 24,217	4h 6g 8g	25,000 24,974 24,974	24,888 24,794 24,694	24,350 24,324 24,324	24,270 24,199 24,124	23,773 23,747 23,747	23,654 23,583 23,508		
	1,5 1,5 1,5	5H 6H 7H	25,000 25,000 25,000	24,026 24,026 24,026	24,186 24,226 24,276	23,376 23,376 23,376	23,612 23,676 23,751	4h 6g 8g	25,000 24,968 24,968	24,850 24,732 24,593	24,026 23,994 23,994	23,931 23,844 23,758	23,160 23,128 23,128	23,007 22,920 22,834		
	2 2 2	5H 6H 7H	25,000 25,000 25,000	23,701 23,701 23,701	23,881 23,925 23,981	22,835 22,835 22,835	23,135 23,210 23,310	4h 6g 8g	25,000 24,962 24,962	24,820 24,682 24,512	23,701 23,663 23,663	23,595 23,493 23,398	22,546 22,508 22,508	22,363 22,261 22,166		
	25,5	0,5 0,5	5H 6H	25,500 25,500	25,175 25,175	25,255 25,300	24,959 24,959	25,071 25,099	4h 6g	25,500 25,480	25,433 25,374	25,175 25,155	25,115 25,060	24,887 24,867	24,808 24,753	
		26	0,35 0,35	4H	26,000	25,773	25,844	25,621	25,684	4h 6g	26,000 25,981	25,947 25,896	25,773 25,754	25,720 25,669	25,571 25,552	25,505 25,454
	0,5 0,5		5H 6H	26,000 26,000	25,675 25,675	25,755 25,800	25,459 25,459	25,571 25,599	4h 6g	26,000 25,980	25,933 25,874	25,675 25,655	25,615 25,560	25,387 25,367	25,308 25,253	
	0,75 0,75 0,75		5H 6H 7H	26,000 26,000 26,000	25,513 25,513 25,513	25,631 25,663 25,703	25,188 25,188 25,188	25,338 25,378 25,424	4h 6g	26,000 25,978	25,910 25,838	25,513 25,491	25,442 25,379	25,080 25,058	24,980 24,917	
	1 1 1		5H 6H 7H	26,000 26,000 26,000	25,350 25,350 25,350	25,482 25,520 25,562	24,917 24,917 24,917	25,107 25,153 25,217	4h 6g 8g	26,000 25,974 25,974	25,888 25,794 25,694	25,350 25,324 25,324	25,270 25,199 25,124	24,773 24,747 24,747	24,654 24,583 24,508	
	1,5 1,5 1,5		5H 6H 7H	26,000 26,000 26,000	25,026 25,026 25,026	25,186 25,226 25,276	24,376 24,376 24,376	24,612 24,676 24,751	4h 6g 8g	26,000 25,968 25,968	25,850 25,732 25,593	25,026 24,994 24,994	24,931 24,844 24,758	24,160 24,128 24,128	24,007 23,920 23,834	
	2 2 2		5H 6H 7H	26,000 26,000 26,000	24,701 24,701 24,701	24,881 24,925 24,981	23,835 23,835 23,835	24,135 24,210 24,310	4h 6g 8g	26,000 25,962 25,962	25,820 25,682 25,512	24,701 24,663 24,663	24,595 24,493 24,398	23,546 23,508 23,508	23,363 23,261 23,166	
	26,5		0,5 0,5	5H 6H	26,500 26,500	26,175 26,175	26,255 26,300	25,959 25,959	26,071 26,099	4h 6g	26,500 26,480	26,433 26,374	26,175 26,155	26,115 26,060	25,887 25,867	25,808 25,753
			27	0,35 0,35	4H	27,000	26,773	26,844	26,621	26,684	4h 6g	27,000 26,981	26,947 26,896	26,773 26,754	26,720 26,669	26,571 26,552
	0,5 0,5			5H 6H	27,000 27,000	26,675 26,675	26,755 26,800	26,459 26,459	26,571 26,599	4h 6g	27,000 26,980	26,933 26,874	26,675 26,655	26,615 26,560	26,387 26,367	26,308 26,253
0,75 0,75 0,75	5H 6H 7H			27,000 27,000 27,000	26,513 26,513 26,513	26,631 26,663 26,703	26,188 26,188 26,188	26,338 26,378 26,424	4h 6g	27,000 26,978	26,910 26,838	26,513 26,491	26,442 26,379	26,080 26,058	25,980 25,917	
1 1 1	5H 6H 7H			27,000 27,000 27,000	26,350 26,350 26,350	26,482 26,520 26,562	25,917 25,917 25,917	26,107 26,153 26,217	4h 6g 8g	27,000 26,974 26,974	26,888 26,794 26,694	26,350 26,324 26,324	26,270 26,199 26,124	25,773 25,747 25,747	25,654 25,583 25,508	
1,5 1,5 1,5	5H 6H 7H			27,000 27,000 27,000	26,026 26,026 26,026	26,186 26,226 26,276	25,376 25,376 25,376	25,612 25,676 25,751	4h 6g 8g	27,000 26,968 26,968	26,850 26,732 26,593	26,026 25,994 25,994	25,931 25,844 25,758	25,160 25,128 25,128	25,007 24,920 24,834	
2 2 2	5H 6H 7H			27,000 27,000 27,000	25,701 25,701 25,701	25,881 25,925 25,981	24,835 24,835 24,835	25,135 25,210 25,310	4h 6g 8g	27,000 26,962 26,962	26,820 26,682 26,512	25,701 25,663 25,663	25,595 25,493 25,398	24,546 24,508 24,508	24,363 24,261 24,166	
27,5	0,5 0,5			5H 6H	27,500 27,500	27,175 27,175	27,275 27,300	26,959 26,959	27,071 27,099	4h 6g	27,500 27,480	27,433 27,374	27,175 27,155	27,115 27,060	26,887 26,867	26,808 26,753
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Gewinde- Nenndurchmesser $d = D$	Steigung P	Toleranzfeld	Muttergewinde						Toleranzfeld	Bolzensgewinde						
			Außen- durch- messer D	Flanken- durchmesser		Kern- durchmesser		Außen- durchmesser d		Flanken- durchmesser		Kern- durchmesser ¹⁾				
				D_2	D_1	d_2	d_3									
										Kleinst- maß	Größt- maß	Größt- maß	Kleinst- maß	Größt- maß	Kleinst- maß	
28	0,35 0,35	4H	28,000	27,773	27,844	27,621	27,684	4h 6g	28,000 27,981	27,947 27,896	27,773 27,754	27,720 27,669	27,571 27,552	27,505 27,454		
	0,5 0,5	5H 6H	28,000 28,000	27,675 27,675	27,775 27,800	27,459 27,459	27,571 27,599	4h 6g	28,000 27,980	27,933 27,874	27,675 27,655	27,615 27,560	27,387 27,367	27,308 27,253		
	0,75 0,75 0,75	5H 6H 7H	28,000 28,000 28,000	27,513 27,513 27,513	27,631 27,663 27,703	27,188 27,188 27,188	27,338 27,378 27,424	4h 6g	28,000 27,978	27,910 27,838	27,513 27,491	27,442 27,379	27,080 27,058	26,980 26,917		
	1 1 1	5H 6H 7H	28,000 28,000 28,000	27,350 27,350 27,350	27,482 27,520 27,562	26,917 26,917 26,917	27,107 27,153 27,217	4h 6g 8g	28,000 27,974 27,974	27,888 27,794 27,694	27,350 27,324 27,324	27,270 27,199 27,124	26,773 26,747 26,747	26,654 26,583 26,508		
	1,5 1,5 1,5	5H 6H 7H	28,000 28,000 28,000	27,026 27,026 27,026	27,186 27,226 27,276	26,376 26,376 26,376	26,612 26,676 26,751	4h 6g 8g	28,000 27,968 27,968	27,850 27,732 27,593	27,026 26,994 26,994	26,931 26,844 26,758	26,160 26,128 26,128	26,007 25,920 25,834		
	2 2 2	5H 6H 7H	28,000 28,000 28,000	26,701 26,701 26,701	26,881 26,925 26,981	25,835 25,835 25,835	26,135 26,210 26,310	4h 6g 8g	28,000 27,962 27,962	27,820 27,682 27,512	26,701 26,663 26,663	26,595 26,493 26,398	25,546 25,508 25,508	25,363 25,261 25,166		
	3 3 3	5H 6H 7H	28,000 28,000 28,000	26,051 26,051 26,051	26,263 26,316 26,386	24,752 24,752 24,752	25,152 25,252 25,382	4h 6g 8g	28,000 27,952 27,952	27,764 27,577 27,352	26,051 26,003 26,003	25,926 25,803 25,688	24,319 24,271 24,271	24,078 23,955 23,840		
	28,5	0,5 0,5	5H 6H	28,500 28,500	28,175 28,175	28,275 28,300	27,959 27,959	28,071 28,099	4h 6g	28,500 28,480	28,433 28,374	28,175 28,155	28,115 28,060	27,887 27,867	27,808 27,753	
		29	0,35 0,35	4H	29,000	28,773	28,844	28,621	28,684	4h 6g	29,000 28,981	28,947 28,896	28,773 28,754	28,720 28,669	28,571 28,552	28,505 28,454
	0,5 0,5		5H 6H	29,000 29,000	28,675 28,675	28,775 28,800	28,459 28,459	28,571 28,599	4h 6g	29,000 28,980	28,933 28,874	28,675 28,655	28,615 28,560	28,387 28,367	28,308 28,253	
	0,75 0,75 0,75		5H 6H 7H	29,000 29,000 29,000	28,513 28,513 28,513	28,631 28,663 28,703	28,188 28,188 28,188	28,338 28,378 28,424	4h 6g	29,000 28,978	28,910 28,838	28,513 28,491	28,442 28,379	28,080 28,058	27,980 27,917	
	1 1 1		5H 6H 7H	29,000 29,000 29,000	28,350 28,350 28,350	28,482 28,520 28,562	27,917 27,917 27,917	28,107 28,153 28,217	4h 6g 8g	29,000 28,974 28,974	28,888 28,794 28,694	28,350 28,324 28,324	28,270 28,199 28,124	27,773 27,747 27,747	27,654 27,583 27,508	
	1,5 1,5 1,5		5H 6H 7H	29,000 29,000 29,000	28,026 28,026 28,026	28,186 28,226 28,276	27,376 27,376 27,376	27,612 27,676 27,751	4h 6g 8g	29,000 28,968 28,968	28,850 28,732 28,593	28,026 27,994 27,994	27,931 27,844 27,758	27,160 27,128 27,128	27,007 26,920 26,834	
	29,5		0,5 0,5	5H 6H	29,500 29,500	29,175 29,175	29,275 29,300	28,959 28,959	29,071 29,099	4h 6g	29,500 29,480	29,433 29,374	29,175 29,155	29,115 29,060	28,887 28,867	28,808 28,753
			30	0,35 0,35	4H	30,000	29,773	29,844	29,621	29,684	4h 6g	30,000 29,981	29,947 29,896	29,773 29,754	29,720 29,669	29,571 29,552
	0,5 0,5			5H 6H	30,000 30,000	29,675 29,675	29,775 29,800	29,459 29,459	29,571 29,599	4h 6g	30,000 29,980	29,933 29,874	29,675 29,655	29,615 29,560	29,387 29,367	29,308 29,253
	0,75 0,75 0,75			5H 6H 7H	30,000 30,000 30,000	29,513 29,513 29,513	29,631 29,663 29,703	29,188 29,188 29,188	29,338 29,378 29,424	4h 6g	30,000 29,978	29,910 29,838	29,513 29,491	29,442 29,379	29,080 29,058	28,980 28,917
	1 1 1			5H 6H 7H	30,000 30,000 30,000	29,350 29,350 29,350	29,482 29,520 29,562	28,917 28,917 28,917	29,107 29,153 29,217	4h 6g 8g	30,000 29,974 29,974	29,888 29,794 29,694	29,350 29,324 29,324	29,270 29,199 29,124	28,773 28,747 28,747	28,654 28,583 28,508
	1,5 1,5 1,5			5H 6H 7H	30,000 30,000 30,000	29,026 29,026 29,026	29,186 29,226 29,276	28,376 28,376 28,376	28,612 28,676 28,751	4h 6g 8g	30,000 29,968 29,968	29,850 29,732 29,593	29,026 28,994 28,994	28,931 28,844 28,758	28,160 28,128 28,128	28,007 27,920 27,834
2 2 2	5H 6H 7H			30,000 30,000 30,000	28,701 28,701 28,701	28,881 28,925 28,981	27,835 27,835 27,835	28,135 28,210 28,310	4h 6g 8g	30,000 29,962 29,962	29,820 29,682 29,512	28,701 28,663 28,663	28,595 28,493 28,398	27,546 27,508 27,508	27,363 27,261 27,166	
3 3 3	5H 6H 7H			30,000 30,000 30,000	28,051 28,051 28,051	28,263 28,316 28,386	26,752 26,752 26,752	27,152 27,252 27,382	4h 6g 8g	30,000 29,952 29,952	29,764 29,577 29,352	28,051 28,003 28,002	27,926 27,803 27,688	26,319 26,271 26,271	26,078 25,955 25,840	

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Gewinde- Nenndurchmesser $d = D$	Steigung P	Toleranzfeld	Muttergewinde						Toleranzfeld	Bolzensgewinde					
			Außen- durch- messer D	Flanken- durchmesser D_2		Kern- durchmesser D_1		Außen- durchmesser d		Flanken- durchmesser d_2		Kern- durchmesser ¹⁾ d_3			
				Kleinst- maß	Größt- maß	Kleinst- maß	Größt- maß			Größt- maß	Kleinst- maß	Größt- maß	Kleinst- maß		
30,5	0,5 0,5	5H 6H	30,500 30,500	30,175 30,175	30,275 30,300	29,959 29,959	30,071 30,099	4h 6g	30,500 30,480	30,433 30,374	30,175 30,155	30,115 30,060	29,887 29,867	29,808 29,753	
31	0,35 0,35	4H	31,000	30,773	30,844	30,621	30,684	4h 6g	31,000 30,981	30,947 30,896	30,773 30,754	30,720 30,669	30,571 30,552	30,505 30,454	
	0,5 0,5	5H 6H	31,000 31,000	30,675 30,675	30,775 30,800	30,459 30,459	30,571 30,599	4h 6g	31,000 30,980	30,933 30,874	30,675 30,655	30,615 30,560	30,387 30,367	30,308 30,253	
	0,75 0,75 0,75	5H 6H 7H	31,000 31,000 31,000	30,513 30,513 30,513	30,631 30,663 30,703	30,188 30,188 30,188	30,338 30,378 30,424	4h 6g	31,000 30,978	30,910 30,838	30,513 30,491	30,442 30,379	30,080 30,058	29,980 29,917	
	1 1 1	5H 6H 7H	31,000 31,000 31,000	30,350 30,350 30,350	30,482 30,520 30,562	29,917 29,917 29,917	30,107 30,153 30,217	4h 6g 8g	31,000 30,974 30,974	30,888 30,794 30,694	30,350 30,324 30,324	30,270 30,199 30,124	29,773 29,747 29,747	29,654 29,583 29,508	
	1,5 1,5 1,5	5H 6H 7H	31,000 31,000 31,000	30,026 30,026 30,026	30,186 30,226 30,276	29,376 29,376 29,376	29,612 29,676 29,751	4h 6g 8g	31,000 30,968 30,968	30,850 30,732 30,593	30,026 29,994 29,994	29,931 29,844 29,758	29,160 29,128 29,128	29,007 28,920 28,834	
	31,5	0,5 0,5	5H 6H	31,500 31,500	31,175 31,175	31,275 31,300	30,959 30,959	31,071 31,099	4h 6g	31,500 31,480	31,433 31,374	31,175 31,155	31,115 31,060	30,887 30,867	30,808 30,753
	32	0,35 0,35	4H	32,000	31,773	31,844	31,621	31,684	4h 6g	32,000 31,981	31,947 31,896	31,773 31,754	31,720 31,669	31,571 31,552	31,505 31,454
		0,5 0,5	5H 6H	32,000 32,000	31,675 31,675	31,775 31,800	31,459 31,459	31,571 31,599	4h 6g	32,000 31,980	31,933 31,874	31,675 31,655	31,615 31,560	31,387 31,367	31,308 31,253
		0,75 0,75 0,75	5H 6H 7H	32,000 32,000 32,000	31,513 31,513 31,513	31,631 31,663 31,703	31,188 31,188 31,188	31,338 31,378 31,424	4h 6g	32,000 31,978	31,910 31,838	31,513 31,491	31,442 31,379	31,080 31,058	30,980 30,917
		1 1 1	5H 6H 7H	32,000 32,000 32,000	31,350 31,350 31,350	31,482 31,520 31,562	30,917 30,917 30,917	31,107 31,153 31,217	4h 6g 8g	32,000 31,974 31,974	31,888 31,794 31,694	31,350 31,324 31,324	31,270 31,199 31,124	30,773 30,747 30,747	30,654 30,583 30,508
		1,5 1,5 1,5	5H 6H 7H	32,000 32,000 32,000	31,026 31,026 31,026	31,186 31,226 31,276	30,376 30,376 30,376	30,612 30,676 30,751	4h 6g 8g	32,000 31,968 31,968	31,850 31,732 31,593	31,026 30,994 30,994	30,931 30,844 30,758	30,160 30,128 30,128	30,007 29,920 29,834
		2 2 2	5H 6H 7H	32,000 32,000 32,000	30,701 30,701 30,701	30,881 30,925 30,981	29,835 29,835 29,835	30,135 30,210 30,310	4h 6g 8g	32,000 31,962 31,962	31,820 31,682 31,512	30,701 30,663 30,663	30,595 30,493 30,398	29,546 29,508 29,508	29,363 29,261 29,166
3 3 3		5H 6H 7H	32,000 32,000 32,000	30,051 30,051 30,051	30,263 30,316 30,386	28,752 28,752 28,752	29,152 29,252 29,382	4h 6g 8g	32,000 31,952 31,952	31,764 31,577 31,352	30,051 30,003 30,003	29,926 29,803 29,688	28,319 28,271 28,271	28,078 27,955 27,840	
32,5		0,5 0,5	5H 6H	32,500 32,500	32,175 32,175	32,275 32,300	31,959 31,959	32,071 32,099	4h 6g	32,500 32,480	32,433 32,374	32,175 32,155	32,115 32,060	31,887 31,867	31,808 31,753
33		0,35 0,35	4H	33,000	32,773	32,844	32,621	32,684	4h 6g	33,000 32,981	32,947 32,896	32,773 32,754	32,720 32,669	32,571 32,552	32,505 32,454
		0,5 0,5	5H 6H	33,000 33,000	32,675 32,675	32,775 32,800	32,459 32,459	32,571 32,599	4h 6g	33,000 32,980	32,933 32,874	32,675 32,655	32,615 32,560	32,387 32,367	32,308 32,253
		0,75 0,75 0,75	5H 6H 7H	33,000 33,000 33,000	32,513 32,513 32,513	32,631 32,663 32,703	32,188 32,188 32,188	32,338 32,378 32,424	4h 6g	33,000 32,978	32,910 32,838	32,513 32,491	32,442 32,379	32,080 32,058	31,980 31,917
		1 1 1	5H 6H 7H	33,000 33,000 33,000	32,350 32,350 32,350	32,482 32,520 32,562	31,917 31,917 31,917	32,107 32,153 32,217	4h 6g 8g	33,000 32,974 32,974	32,888 32,794 32,694	32,350 32,324 32,324	32,270 32,199 32,124	31,773 31,747 31,747	31,654 31,583 31,508
		1,5 1,5 1,5	5H 6H 7H	33,000 33,000 33,000	32,026 32,026 32,026	32,186 32,226 32,276	31,376 31,376 31,376	31,612 31,676 31,751	4h 6g 8g	33,000 32,968 32,968	32,850 32,732 32,593	32,026 31,994 31,994	31,931 31,844 31,758	31,160 31,128 31,128	31,007 30,920 30,834
		2 2 2	5H 6H 7H	33,000 33,000 33,000	31,701 31,701 31,701	31,881 31,925 31,981	30,835 30,835 30,835	31,135 31,210 31,310	4h 6g 8g	33,000 32,962 32,962	32,820 32,682 32,512	31,701 31,663 31,663	31,595 31,493 31,398	30,546 30,508 30,508	30,363 30,261 30,166
		3 3 3	5H 6H 7H	33,000 33,000 33,000	31,051 31,051 31,051	31,263 31,316 31,386	29,752 29,752 29,752	30,152 30,252 30,382	4h 6g 8g	33,000 32,952 32,952	32,764 32,577 32,352	31,051 31,003 31,003	30,926 30,803 30,688	29,319 29,271 29,271	29,078 28,955 28,840

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