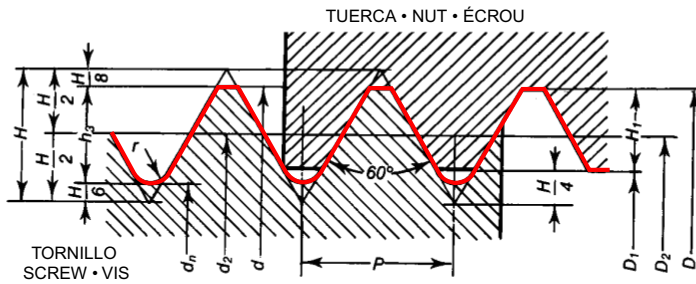


ROSCA ISO-METRICA
ISO-METRIC THREAD
FILETAGE MÉTRIQUE ISO

PERFIL TEORICO
THEORETICAL PROFILE • PROFIL THÉORIQUE

MF

DIN 13



$$D_1 = d - 2H_1$$

$$d_2 = D_2 = d - 0,64953 P$$

$$d_3 = d - 1,22687 P$$

$$H = 0,86603 P$$

$$H_1 = 0,54127 P$$

$$h_3 = 0,61343 P$$

$$r = \frac{H}{6} = 0,14434 P$$

| Diámetro nominal de la rosca Nominal thread diameter Diamètre nominal du filet | | d = D | Paso Pitch Pass | Ø Medio Pitch Ø Ø Moyen | Diámetro del núcleo Core diameter Diamètre du noyau | |
|--|---------|---------|-----------------------|-------------------------------|---|--------------------|
| Serie 1 | Serie 2 | Serie 3 | P mm. | d = D ₂ mm. | d _n mm. | D ₁ mm. |
| M 1* | M 1,1* | | 0,2 | 0,870 | 0,755 | 0,783 |
| M 1,2* | M 1,4* | | 0,2 | 0,970 | 0,855 | 0,883 |
| | | | 0,2 | 1,070 | 0,955 | 0,983 |
| | | | 0,2 | 1,270 | 1,155 | 1,183 |
| M 1,6* | M 1,8* | | 0,2 | 1,470 | 1,355 | 1,383 |
| M 2* | M 2,2* | | 0,2 | 1,670 | 1,555 | 1,583 |
| | | | 0,25 | 1,838 | 1,693 | 1,729 |
| | | | 0,25 | 2,038 | 1,893 | 1,929 |
| M 2,5 | | | 0,35 | 2,273 | 2,071 | 2,121 |
| M 3 | | | 0,35 | 2,773 | 2,571 | 2,621 |
| | M 3,5 | | 0,35 | 3,273 | 3,071 | 3,121 |
| M 4 | | | 0,50 | 3,675 | 3,387 | 3,459 |
| | M 4,5 | | 0,50 | 4,175 | 3,887 | 3,959 |
| M 5 | | | 0,50 | 4,675 | 4,387 | 4,459 |
| | | M 5,5 | 0,50 | 5,175 | 4,887 | 4,959 |
| | | | 0,50 | 5,675 | 5,387 | 5,459 |
| M 6 | | | 0,75 | 5,513 | 5,080 | 5,188 |
| | | | 0,75 | 6,513 | 6,080 | 6,188 |
| M 8 | | | 0,50 | 7,675 | 7,387 | 7,459 |
| M 8 | | | 0,75 | 7,513 | 7,080 | 7,188 |
| | | | | | | |
| M 8 | | | 1 | 7,350 | 6,773 | 6,917 |
| | | M 9 | 1 | 8,350 | 7,773 | 7,917 |
| M 10 | | | 0,75 | 9,513 | 9,080 | 9,188 |
| M 10 | | | 1 | 9,350 | 8,773 | 8,917 |
| | | | | | | |
| M 10 | | | 1,25 | 9,188 | 8,466 | 8,647 |
| | | M 11 | 1 | 10,350 | 9,773 | 9,917 |
| M 12 | | | 1 | 10,350 | 10,773 | 10,917 |
| M 12 | | | 1,25 | 11,188 | 10,466 | 10,647 |
| | | | | | | |
| M 12 | | | 1,5 | 11,026 | 10,160 | 10,376 |
| | M 14 | | 1 | 13,350 | 12,773 | 12,917 |
| | M 14 | | 1,25 | 13,188 | 12,466 | 12,647 |
| | M 14 | | 1,5 | 13,026 | 12,160 | 12,376 |
| | | | | | | |
| | | M 15 | 1 | 14,350 | 13,773 | 13,917 |
| | | M 15 | 1,5 | 14,026 | 13,160 | 13,376 |
| M 16 | | | 1 | 15,350 | 14,773 | 14,917 |
| M 16 | | | 1,5 | 15,026 | 14,160 | 14,376 |
| | | | | | | |
| | | M 17 | 1 | 16,350 | 15,773 | 15,917 |
| | | M 17 | 1,5 | 16,026 | 15,160 | 15,376 |
| | M 18 | | 1 | 17,350 | 16,773 | 16,917 |
| | M 18 | | 1,5 | 17,026 | 16,160 | 16,376 |
| | | | | | | |
| | M 18 | | 2 | 16,701 | 15,546 | 15,835 |
| M 20 | | | 1 | 19,350 | 18,773 | 18,917 |
| M 20 | | | 1,5 | 19,026 | 18,160 | 18,376 |
| M 20 | | | 2 | 18,701 | 17,546 | 17,835 |
| | | | | | | |
| | M 22 | | 1 | 21,350 | 20,773 | 20,917 |
| | M 22 | | 1,5 | 21,026 | 20,160 | 20,376 |
| | M 22 | | 2 | 20,701 | 19,546 | 19,835 |
| M 24 | | | 1 | 23,350 | 22,773 | 22,917 |

* Macho en tolerancia 4H • Dimensions in tolerance 4H • Mesures en tolérance 4H

**ROSCA ISO-METRICA FINA
ISO-METRIC FINE THREAD
FILETAGE MÉTRIQUE ISO FINE**

**PERFIL TEORICO
THEORETICAL PROFILE • PROFIL THÉORIQUE**

MF

DIN 13

| Diámetro nominal de la rosca Nominal thread diameter Diamètre nominal du filet d = D | | | Paso Pitch Pass | Ø Medio Pitch Ø Ø Moyen | Diámetro del núcleo Core diameter Diamètre du noyau | | Diámetro nominal de la rosca Nominal thread diameter Diamètre nominal du filet d = D | | | Paso Pitch Pass | Ø Medio Pitch Ø Ø Moyen | Diámetro del núcleo Core diameter Diamètre du noyau | |
|---|---------|---------|-----------------------|-------------------------------|---|----------------|---|---------|---------|-----------------------|-------------------------------|---|---------------------------------|
| Serie 1 | Serie 2 | Serie 3 | | | d ₂ = D ₂ | D _n | D ₁ | Serie 1 | Serie 2 | | | Serie 3 | d ₂ = D ₂ |
| M 24 | | | 1,5 | 23,026 | 22,160 | 22,376 | | | M 58 | 3 | 56,051 | 54,319 | 54,752 |
| M 24 | | | 2 | 22,701 | 21,546 | 21,835 | | | M 58 | 4 | 55,402 | 53,093 | 53,670 |
| | | M 25 | 1 | 24,350 | 23,773 | 23,917 | | M 60 | 1,5 | 59,026 | 58,160 | 58,376 | |
| | | M 25 | 1,5 | 24,026 | 23,160 | 23,376 | | M 60 | 2 | 58,701 | 57,546 | 57,835 | |
| | M 27 | M 25 | 2 | 23,701 | 22,546 | 22,835 | | M 60 | 3 | 58,051 | 56,319 | 56,752 | |
| | M 27 | | 1 | 26,350 | 25,773 | 25,917 | | M 60 | 4 | 57,402 | 55,093 | 55,670 | |
| | M 27 | | 1,5 | 26,026 | 25,160 | 25,376 | | M 62 | 1,5 | 61,026 | 60,160 | 60,376 | |
| | M 27 | | 2 | 25,701 | 24,546 | 24,835 | | M 62 | 2 | 60,701 | 59,546 | 59,835 | |
| | | M 28 | 1 | 27,350 | 26,773 | 26,917 | | M 62 | 3 | 60,051 | 58,319 | 58,752 | |
| | | M 28 | 1,5 | 27,026 | 26,160 | 26,376 | | M 62 | 4 | 59,402 | 57,093 | 57,670 | |
| M 30 | | M 28 | 2 | 26,701 | 25,546 | 25,835 | M 64 | | 1,5 | 63,026 | 62,160 | 62,376 | |
| | | | 1 | 29,350 | 28,773 | 28,917 | M 64 | | 2 | 62,701 | 61,546 | 61,835 | |
| M 30 | | | 1,5 | 29,026 | 28,160 | 28,376 | M 64 | | 3 | 62,051 | 60,319 | 60,752 | |
| M 30 | | | 2 | 28,701 | 27,546 | 27,835 | M 64 | | 4 | 61,402 | 59,093 | 59,670 | |
| M 30 | | | 3 | 28,051 | 26,319 | 26,752 | | M 65 | 1,5 | 64,026 | 63,160 | 63,376 | |
| | | M 32 | 1,5 | 31,026 | 30,160 | 30,376 | | M 65 | 2 | 63,701 | 62,546 | 62,835 | |
| | M 33 | M 32 | 2 | 30,701 | 29,546 | 29,835 | | M 65 | 3 | 63,051 | 61,319 | 61,752 | |
| | M 33 | | 1,5 | 32,026 | 31,160 | 31,376 | | M 65 | 4 | 62,402 | 60,093 | 60,670 | |
| | M 33 | | 2 | 31,701 | 30,546 | 30,835 | M 68 | | 1,5 | 67,026 | 66,160 | 66,376 | |
| | M 33 | | 3 | 31,051 | 29,319 | 29,752 | M 68 | | 2 | 66,701 | 65,546 | 65,835 | |
| M 36 | | M 35 | 1,5 | 34,026 | 33,160 | 33,376 | | M 68 | 3 | 66,051 | 64,319 | 64,752 | |
| M 36 | | | 1,5 | 35,026 | 34,160 | 34,376 | | M 68 | 4 | 65,402 | 63,093 | 63,670 | |
| M 36 | | | 2 | 34,701 | 33,546 | 33,835 | | M 70 | 1,5 | 69,026 | 68,160 | 68,376 | |
| M 36 | | | 3 | 34,051 | 32,319 | 32,752 | | M 70 | 2 | 68,701 | 67,546 | 67,835 | |
| | M 39 | M 38 | 1,5 | 37,026 | 36,160 | 36,376 | | M 70 | 3 | 68,051 | 66,319 | 66,752 | |
| | M 39 | | 1,5 | 38,026 | 37,160 | 37,376 | | M 70 | 4 | 67,402 | 65,093 | 65,670 | |
| | M 39 | | 2 | 37,701 | 36,546 | 36,835 | | M 70 | 6 | 66,103 | 62,639 | 63,505 | |
| | M 39 | | 3 | 37,051 | 35,319 | 35,752 | M 72 | | 1,5 | 71,026 | 70,160 | 70,376 | |
| | | M 40 | 1,5 | 39,026 | 38,160 | 38,376 | M 72 | | 2 | 70,701 | 69,546 | 69,835 | |
| M 42 | | M 40 | 2 | 38,701 | 37,546 | 37,835 | M 72 | | 3 | 70,051 | 68,319 | 68,752 | |
| M 42 | | M 40 | 3 | 38,051 | 36,319 | 36,752 | M 72 | | 4 | 69,402 | 67,093 | 67,670 | |
| M 42 | | M 40 | 1,5 | 41,026 | 40,160 | 40,376 | M 72 | | 6 | 68,103 | 64,639 | 65,505 | |
| M 42 | | | 2 | 40,701 | 39,546 | 39,835 | | M 75 | 1,5 | 74,026 | 73,160 | 73,376 | |
| M 42 | | | 3 | 40,051 | 38,319 | 38,752 | | M 75 | 2 | 73,701 | 72,546 | 72,835 | |
| M 42 | | | 4 | 39,402 | 37,039 | 37,670 | | M 75 | 3 | 73,051 | 71,319 | 71,752 | |
| | M 45 | | 1,5 | 44,026 | 43,160 | 43,376 | | M 75 | 4 | 72,402 | 70,093 | 70,670 | |
| | M 45 | | 2 | 43,701 | 42,546 | 42,835 | | M 76 | 1,5 | 75,026 | 74,160 | 74,376 | |
| | M 45 | | 3 | 43,051 | 41,319 | 41,752 | | M 76 | 2 | 74,701 | 73,546 | 73,835 | |
| | M 45 | | 4 | 42,402 | 40,093 | 40,670 | | M 76 | 3 | 74,051 | 72,319 | 72,752 | |
| M 48 | | | 1,5 | 47,026 | 46,160 | 46,376 | | M 76 | 4 | 73,402 | 71,093 | 71,670 | |
| M 48 | | | 2 | 46,701 | 45,546 | 45,835 | M 80 | | 6 | 72,103 | 68,639 | 69,505 | |
| M 48 | | | 3 | 46,051 | 44,319 | 44,752 | M 80 | | 1,5 | 79,026 | 78,160 | 78,376 | |
| M 48 | | | 4 | 45,402 | 43,093 | 43,670 | M 80 | | 2 | 78,701 | 77,546 | 77,835 | |
| | | M 50 | 1,5 | 49,026 | 48,160 | 48,376 | M 80 | | 3 | 78,051 | 76,319 | 76,752 | |
| | | M 50 | 2 | 48,701 | 47,546 | 47,835 | M 80 | | 4 | 77,402 | 75,093 | 75,670 | |
| | | M 50 | 3 | 48,051 | 46,319 | 46,752 | | M 85 | 6 | 76,103 | 72,639 | 73,505 | |
| | M 52 | | 1,5 | 51,026 | 50,160 | 50,376 | | M 85 | 2 | 83,701 | 82,546 | 82,835 | |
| | M 52 | | 2 | 50,701 | 49,546 | 49,835 | | M 85 | 3 | 83,051 | 81,319 | 81,752 | |
| | M 52 | | 3 | 50,051 | 48,319 | 48,752 | | M 85 | 4 | 82,402 | 80,093 | 80,670 | |
| | M 52 | | 4 | 49,402 | 47,093 | 47,670 | M 90 | | 6 | 81,103 | 77,639 | 78,505 | |
| | | M 55 | 1,5 | 54,026 | 53,160 | 53,376 | M 90 | | 2 | 88,701 | 87,546 | 87,835 | |
| | | M 55 | 2 | 53,701 | 52,546 | 52,835 | M 90 | | 3 | 88,051 | 86,319 | 86,752 | |
| M 56 | | M 55 | 3 | 53,051 | 51,319 | 51,752 | M 90 | | 4 | 87,402 | 85,093 | 85,670 | |
| M 56 | | M 55 | 4 | 52,402 | 50,093 | 50,670 | | M 95 | 6 | 86,103 | 82,639 | 83,505 | |
| M 56 | | | 1,5 | 55,026 | 54,160 | 54,376 | | M 95 | 2 | 93,701 | 92,546 | 92,835 | |
| M 56 | | | 2 | 54,701 | 53,546 | 53,835 | | M 95 | 3 | 93,051 | 91,319 | 91,752 | |
| M 56 | | | 3 | 54,051 | 52,319 | 52,752 | | M 95 | 4 | 92,402 | 90,093 | 90,670 | |
| M 56 | | | 4 | 53,402 | 51,093 | 51,670 | M100 | | 6 | 91,103 | 87,639 | 88,505 | |
| M 56 | | M 58 | 1,5 | 57,026 | 56,160 | 56,376 | M100 | | 2 | 98,701 | 97,546 | 97,835 | |
| | | M 58 | 2 | 56,701 | 55,546 | 55,835 | M100 | | 3 | 98,051 | 96,319 | 96,752 | |
| | | | | | | | M100 | | 4 | 97,402 | 95,093 | 95,670 | |
| | | | | | | | M100 | | 6 | 96,103 | 92,639 | 93,505 | |

**ROSCA ISO-METRICA FINA
ISO-METRIC FINE THREAD
FILETAGE MÉTRIQUE ISO FINE**

TUERCA • NUT • ÉCROU

DIN 13

MF

| Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | | Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | |
|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|
| | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. | | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. |
| M 1 x 0,2 | 4H | 1,000 | 0,870 | 0,910 | 0,783 | 0,821 | M 12 x 1,25 | 5H | 12,000 | 11,188 | 11,328 | 10,647 | 10,859 |
| M 1,1 x 0,2 | 4H | 1,100 | 0,970 | 1,010 | 0,883 | 0,921 | | 6H | 12,000 | 11,188 | 11,368 | 10,647 | 10,912 |
| M 1,2 x 0,2 | 4H | 1,200 | 1,070 | 1,110 | 0,983 | 1,021 | | 7H | 12,000 | 11,188 | 11,412 | 10,647 | 10,982 |
| M 1,4 x 0,2 | 4H | 1,400 | 1,270 | 1,310 | 1,183 | 1,221 | M 12 x 1,5 | 5H | 12,000 | 11,026 | 11,176 | 10,376 | 10,612 |
| M 1,6 x 0,2 | 4H | 1,600 | 1,470 | 1,512 | 1,383 | 1,421 | | 6H | 12,000 | 11,026 | 11,216 | 10,376 | 10,676 |
| M 1,8 x 0,2 | 4H | 1,800 | 1,670 | 1,712 | 1,583 | 1,621 | | 7H | 12,000 | 11,026 | 11,262 | 10,376 | 10,751 |
| M 2 x 0,25 | 4H | 2,000 | 1,838 | 1,886 | 1,729 | 1,774 | M 14 x 1 | 5H | 14,000 | 13,350 | 13,475 | 12,917 | 13,107 |
| M 2,2 x 0,25 | 4H | 2,200 | 2,038 | 2,086 | 1,929 | 1,974 | | 6H | 14,000 | 13,350 | 13,510 | 12,917 | 13,153 |
| M 2,5 x 0,35 | 4H | 2,500 | 2,273 | 2,326 | 2,121 | 2,184 | | 7H | 14,000 | 13,350 | 13,550 | 12,917 | 13,217 |
| M 3 x 0,35 | 4H | 3,000 | 2,773 | 2,829 | 2,621 | 2,684 | M 14 x 1,25 | 5H | 14,000 | 13,188 | 13,300 | 12,647 | 12,859 |
| M 3,5 x 0,35 | 4H | 3,500 | 3,273 | 3,329 | 3,121 | 3,184 | | 6H | 14,000 | 13,188 | 13,368 | 12,647 | 12,912 |
| M 4 x 0,5 | 5H | 4,000 | 3,675 | 3,755 | 3,459 | 3,571 | | 7H | 14,000 | 13,188 | 13,412 | 12,647 | 12,982 |
| M 4,5 x 0,5 | 6H | 4,000 | 3,675 | 3,775 | 3,459 | 3,599 | M 14 x 1,5 | 5H | 14,000 | 13,026 | 13,176 | 12,376 | 12,612 |
| | 7H | 4,000 | 3,675 | 3,800 | 3,459 | 3,639 | | 6H | 14,000 | 13,026 | 13,216 | 12,376 | 12,676 |
| | 5H | 4,500 | 4,175 | 4,255 | 3,959 | 4,071 | | 7H | 14,000 | 13,026 | 13,262 | 12,376 | 12,751 |
| M 5 x 0,5 | 6H | 4,500 | 4,175 | 4,275 | 3,959 | 4,099 | M 15 x 1 | 5H | 15,000 | 14,350 | 14,475 | 13,917 | 14,107 |
| | 7H | 4,500 | 4,175 | 4,300 | 3,959 | 4,139 | | 6H | 15,000 | 14,350 | 14,510 | 13,917 | 14,153 |
| | 5H | 5,000 | 4,675 | 4,755 | 4,459 | 4,571 | | 7H | 15,000 | 14,350 | 14,550 | 13,917 | 14,217 |
| M 5,5 x 0,5 | 6H | 5,000 | 4,675 | 4,775 | 4,459 | 4,599 | M 15 x 1,5 | 5H | 15,000 | 14,026 | 14,176 | 13,376 | 13,612 |
| | 7H | 5,000 | 4,675 | 4,800 | 4,459 | 4,639 | | 6H | 15,000 | 14,026 | 14,216 | 13,376 | 13,676 |
| | 5H | 5,500 | 5,175 | 5,255 | 4,959 | 5,071 | | 7H | 15,000 | 14,026 | 14,262 | 13,376 | 13,751 |
| M 6 x 0,5 | 6H | 5,500 | 5,175 | 5,275 | 4,959 | 5,099 | M 16 x 1 | 5H | 16,000 | 15,350 | 15,475 | 14,917 | 15,107 |
| | 7H | 5,500 | 5,175 | 5,300 | 4,959 | 5,139 | | 6H | 16,000 | 15,350 | 15,510 | 14,917 | 15,153 |
| | 5H | 6,000 | 5,675 | 5,755 | 5,459 | 5,571 | | 7H | 16,000 | 15,350 | 15,550 | 14,917 | 15,217 |
| M 6 x 0,75 | 6H | 6,000 | 5,675 | 5,775 | 5,459 | 5,599 | M 16 x 1,5 | 5H | 16,000 | 15,026 | 15,176 | 14,376 | 14,612 |
| | 7H | 6,000 | 5,675 | 5,800 | 5,459 | 5,639 | | 6H | 16,000 | 15,026 | 15,216 | 14,376 | 14,676 |
| | 5H | 6,500 | 6,175 | 6,255 | 5,959 | 6,071 | | 7H | 16,000 | 15,026 | 15,262 | 14,376 | 14,751 |
| M 7 x 0,75 | 6H | 7,000 | 6,513 | 6,619 | 6,188 | 6,338 | M 17 x 1 | 5H | 17,000 | 16,350 | 16,475 | 15,917 | 16,107 |
| | 7H | 7,000 | 6,513 | 6,645 | 6,188 | 6,378 | | 6H | 17,000 | 16,350 | 16,510 | 15,917 | 16,153 |
| | 5H | 7,500 | 7,075 | 7,155 | 6,859 | 6,971 | | 7H | 17,000 | 16,350 | 16,550 | 15,917 | 16,217 |
| M 8 x 0,5 | 6H | 8,000 | 7,513 | 7,619 | 7,188 | 7,338 | M 17 x 1,5 | 5H | 17,000 | 16,026 | 16,176 | 15,376 | 15,612 |
| | 7H | 8,000 | 7,513 | 7,683 | 7,188 | 7,424 | | 6H | 17,000 | 16,026 | 16,216 | 15,376 | 15,676 |
| | 5H | 8,500 | 8,075 | 8,155 | 7,859 | 7,971 | | 7H | 17,000 | 16,026 | 16,262 | 15,376 | 15,751 |
| M 8 x 0,75 | 6H | 9,000 | 8,513 | 8,619 | 8,188 | 8,338 | M 18 x 1 | 5H | 18,000 | 17,350 | 17,475 | 16,917 | 17,107 |
| | 7H | 9,000 | 8,513 | 8,683 | 8,188 | 8,424 | | 6H | 18,000 | 17,350 | 17,510 | 16,917 | 17,153 |
| | 5H | 9,500 | 9,075 | 9,155 | 8,859 | 8,971 | | 7H | 18,000 | 17,350 | 17,550 | 16,917 | 17,217 |
| M 8 x 1 | 6H | 10,000 | 9,513 | 9,619 | 9,188 | 9,338 | M 18 x 1,5 | 5H | 18,000 | 17,026 | 17,176 | 16,376 | 16,612 |
| | 7H | 10,000 | 9,513 | 9,683 | 9,188 | 9,424 | | 6H | 18,000 | 17,026 | 17,216 | 16,376 | 16,676 |
| | 5H | 10,500 | 10,075 | 10,155 | 9,859 | 9,971 | | 7H | 18,000 | 17,026 | 17,262 | 16,376 | 16,751 |
| M 9 x 1 | 6H | 11,000 | 10,513 | 10,619 | 10,188 | 10,338 | M 18 x 2 | 5H | 18,000 | 16,701 | 16,871 | 15,835 | 16,135 |
| | 7H | 11,000 | 10,513 | 10,683 | 10,188 | 10,424 | | 6H | 18,000 | 16,701 | 16,913 | 15,835 | 16,210 |
| | 5H | 11,500 | 11,075 | 11,155 | 10,859 | 10,971 | | 7H | 18,000 | 16,701 | 16,966 | 15,835 | 16,310 |
| M 10 x 0,75 | 6H | 12,000 | 11,513 | 11,619 | 11,188 | 11,338 | M 20 x 1 | 5H | 20,000 | 19,350 | 19,475 | 18,917 | 19,107 |
| | 7H | 12,000 | 11,513 | 11,683 | 11,188 | 11,424 | | 6H | 20,000 | 19,350 | 19,510 | 18,917 | 19,153 |
| | 5H | 12,500 | 12,075 | 12,155 | 11,859 | 11,971 | | 7H | 20,000 | 19,350 | 19,550 | 18,917 | 19,217 |
| M 10 x 1 | 6H | 13,000 | 12,513 | 12,619 | 12,188 | 12,338 | M 20x1,5 | 5H | 20,000 | 19,026 | 19,176 | 18,376 | 18,612 |
| | 7H | 13,000 | 12,513 | 12,683 | 12,188 | 12,424 | | 6H | 20,000 | 19,026 | 19,216 | 18,376 | 18,676 |
| | 5H | 13,500 | 13,075 | 13,155 | 12,859 | 12,971 | | 7H | 20,000 | 19,026 | 19,262 | 18,376 | 18,751 |
| M 10 x 1,25 | 6H | 14,000 | 13,513 | 13,619 | 13,188 | 13,338 | M 20 x 2 | 5H | 20,000 | 18,701 | 18,871 | 17,835 | 18,135 |
| | 7H | 14,000 | 13,513 | 13,683 | 13,188 | 13,424 | | 6H | 20,000 | 18,701 | 18,913 | 17,835 | 18,210 |
| | 5H | 14,500 | 14,075 | 14,155 | 13,859 | 13,971 | | 7H | 20,000 | 18,701 | 18,966 | 17,835 | 18,310 |
| M 11 x 1 | 6H | 15,000 | 14,513 | 14,619 | 14,188 | 14,338 | M 22 x 1 | 5H | 22,000 | 21,350 | 21,475 | 20,917 | 21,107 |
| | 7H | 15,000 | 14,513 | 14,683 | 14,188 | 14,424 | | 6H | 22,000 | 21,350 | 21,510 | 20,917 | 21,153 |
| | 5H | 15,500 | 15,075 | 15,155 | 14,859 | 14,971 | | 7H | 22,000 | 21,350 | 21,550 | 20,917 | 21,217 |
| M 12 x 1 | 6H | 16,000 | 15,513 | 15,619 | 15,188 | 15,338 | M 22 x 1,5 | 5H | 22,000 | 21,026 | 21,176 | 20,376 | 20,612 |
| | 7H | 16,000 | 15,513 | 15,683 | 15,188 | 15,424 | | 6H | 22,000 | 21,026 | 21,216 | 20,376 | 20,676 |
| | 5H | 16,500 | 16,075 | 16,155 | 15,859 | 15,971 | | 7H | 22,000 | 21,026 | 21,262 | 20,376 | 20,751 |
| M 12 x 1,25 | 6H | 17,000 | 16,513 | 16,619 | 16,188 | 16,338 | M 22 x 2 | 5H | 22,000 | 20,701 | 20,871 | 19,835 | 20,135 |
| | 7H | 17,000 | 16,513 | 16,683 | 16,188 | 16,424 | | 6H | 22,000 | 20,701 | 20,913 | 19,835 | 20,210 |
| | 5H | 17,500 | 17,075 | 17,155 | 16,859 | 16,971 | | 7H | 22,000 | 20,701 | 20,966 | 19,835 | 20,310 |
| M 14 x 1 | 6H | 18,000 | 17,513 | 17,619 | 17,188 | 17,338 | M 24 x 1 | 5H | 24,000 | 23,350 | 23,482 | 22,917 | 23,107 |
| | 7H | 18,000 | 17,513 | 17,683 | 17,188 | 17,424 | | 6H | 24,000 | 23,350 | 23,520 | 22,917 | 23,153 |
| | 5H | 18,500 | 18,075 | 18,155 | 17,859 | 17,971 | | 7H | 24,000 | 23,350 | 23,562 | 22,917 | 23,217 |

**ROSCA ISO-METRICA FINA
ISO-METRIC FINE THREAD
FILETAGE MÉTRIQUE ISO FINE**

TUERCA • NUT • ÉCROU

DIN 13

MF

| Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | | Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | |
|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|
| | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. | | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. |
| M 24 x 1,5 | 5H | 24,000 | 23,026 | 23,186 | 22,376 | 22,612 | M 36 x 1,5 | 5H | 36,000 | 35,026 | 35,186 | 34,376 | 34,612 |
| | 6H | 24,000 | 23,026 | 23,226 | 22,376 | 22,676 | | 6H | 36,000 | 35,026 | 35,226 | 34,376 | 34,676 |
| | 7H | 24,000 | 23,026 | 23,276 | 22,376 | 22,751 | | 7H | 36,000 | 35,026 | 35,276 | 34,376 | 34,751 |
| M 24 x 2 | 5H | 24,000 | 22,701 | 22,881 | 21,835 | 22,135 | M 36 x 2 | 5H | 36,000 | 34,701 | 34,881 | 33,835 | 34,135 |
| | 6H | 24,000 | 22,701 | 22,925 | 21,835 | 22,210 | | 6H | 36,000 | 34,701 | 34,925 | 33,835 | 34,210 |
| | 7H | 24,000 | 22,701 | 22,981 | 21,835 | 22,310 | | 7H | 36,000 | 34,701 | 34,981 | 33,835 | 34,310 |
| M 25 x 1 | 5H | 25,000 | 24,350 | 24,482 | 23,917 | 24,107 | M 36 x 3 | 5H | 36,000 | 34,051 | 34,263 | 32,752 | 33,152 |
| | 6H | 25,000 | 24,350 | 24,520 | 23,917 | 24,153 | | 6H | 36,000 | 34,051 | 34,316 | 32,752 | 33,252 |
| | 7H | 25,000 | 24,350 | 24,562 | 23,917 | 24,217 | | 7H | 36,000 | 34,051 | 34,386 | 32,752 | 33,382 |
| M 25 x 1,5 | 5H | 25,000 | 24,026 | 24,186 | 23,376 | 23,612 | M 38 x 1,5 | 5H | 38,000 | 37,026 | 37,186 | 36,376 | 36,612 |
| | 6H | 25,000 | 24,026 | 24,226 | 23,376 | 23,676 | | 6H | 38,000 | 37,026 | 37,226 | 36,376 | 36,676 |
| | 7H | 25,000 | 24,026 | 24,276 | 23,376 | 23,751 | | 7H | 38,000 | 37,026 | 37,276 | 36,376 | 36,751 |
| M 25 x 2 | 5H | 25,000 | 23,701 | 23,881 | 22,835 | 23,135 | M 39 x 1,5 | 5H | 39,000 | 38,026 | 38,186 | 37,376 | 37,612 |
| | 6H | 25,000 | 23,701 | 23,925 | 22,835 | 23,210 | | 6H | 39,000 | 38,026 | 38,226 | 37,376 | 37,676 |
| | 7H | 25,000 | 23,701 | 23,981 | 22,835 | 23,310 | | 7H | 39,000 | 38,026 | 38,276 | 37,376 | 37,751 |
| M 27 x 1 | 5H | 27,000 | 26,350 | 26,482 | 25,917 | 26,107 | M 39 x 2 | 5H | 39,000 | 37,701 | 37,881 | 36,835 | 37,135 |
| | 6H | 27,000 | 26,350 | 26,520 | 25,917 | 26,153 | | 6H | 39,000 | 37,701 | 37,925 | 36,835 | 37,210 |
| | 7H | 27,000 | 26,350 | 26,562 | 25,917 | 26,217 | | 7H | 39,000 | 37,701 | 37,981 | 36,835 | 37,310 |
| M 27 x 1,5 | 5H | 27,000 | 26,026 | 26,186 | 25,376 | 25,612 | M 39 x 3 | 5H | 39,000 | 37,051 | 37,263 | 35,752 | 36,152 |
| | 6H | 27,000 | 26,026 | 26,226 | 25,376 | 25,676 | | 6H | 39,000 | 37,051 | 37,316 | 35,752 | 36,252 |
| | 7H | 27,000 | 26,026 | 26,276 | 25,376 | 25,751 | | 7H | 39,000 | 37,051 | 37,386 | 35,752 | 36,382 |
| M 27 x 2 | 5H | 27,000 | 25,701 | 25,881 | 24,835 | 25,135 | M 40 x 1,5 | 5H | 40,000 | 39,026 | 39,186 | 38,376 | 38,612 |
| | 6H | 27,000 | 25,701 | 25,925 | 24,835 | 25,210 | | 6H | 40,000 | 39,026 | 39,226 | 38,376 | 38,676 |
| | 7H | 27,000 | 25,701 | 25,981 | 24,835 | 25,310 | | 7H | 40,000 | 39,026 | 39,276 | 38,376 | 38,751 |
| M 28 x 1 | 5H | 28,000 | 27,350 | 27,482 | 26,917 | 27,107 | M 40 x 2 | 5H | 40,000 | 38,701 | 38,881 | 37,835 | 38,135 |
| | 6H | 28,000 | 27,350 | 27,520 | 26,917 | 27,153 | | 6H | 40,000 | 38,701 | 38,925 | 37,835 | 38,210 |
| | 7H | 28,000 | 27,350 | 27,562 | 26,917 | 27,217 | | 7H | 40,000 | 38,701 | 38,981 | 37,835 | 38,310 |
| M 28 x 1,5 | 5H | 28,000 | 27,026 | 27,186 | 26,376 | 26,612 | M 40 x 3 | 5H | 40,000 | 38,051 | 38,263 | 36,752 | 37,152 |
| | 6H | 28,000 | 27,026 | 27,226 | 26,376 | 26,676 | | 6H | 40,000 | 38,051 | 38,316 | 36,752 | 37,252 |
| | 7H | 28,000 | 27,026 | 27,276 | 26,376 | 26,751 | | 7H | 40,000 | 38,051 | 38,386 | 36,752 | 37,382 |
| M 28 x 2 | 5H | 28,000 | 26,701 | 26,881 | 25,835 | 26,135 | M 42 x 1,5 | 5H | 42,000 | 41,026 | 41,186 | 40,376 | 40,612 |
| | 6H | 28,000 | 26,701 | 26,925 | 25,835 | 26,210 | | 6H | 42,000 | 41,026 | 41,226 | 40,376 | 40,676 |
| | 7H | 28,000 | 26,701 | 26,981 | 25,835 | 26,310 | | 7H | 42,000 | 41,026 | 41,276 | 40,376 | 40,751 |
| M 30 x 1 | 5H | 30,000 | 29,350 | 29,482 | 28,917 | 29,107 | M 42 x 2 | 5H | 42,000 | 40,701 | 40,881 | 39,835 | 40,135 |
| | 6H | 30,000 | 29,350 | 29,520 | 28,917 | 29,153 | | 6H | 42,000 | 40,701 | 40,925 | 39,835 | 40,210 |
| | 7H | 30,000 | 29,350 | 29,562 | 28,917 | 29,217 | | 7H | 42,000 | 40,701 | 40,981 | 39,835 | 40,310 |
| M 30 x 1,5 | 5H | 30,000 | 29,026 | 29,186 | 28,376 | 28,612 | M 42 x 3 | 5H | 42,000 | 40,051 | 40,263 | 38,752 | 39,152 |
| | 6H | 30,000 | 29,026 | 29,226 | 28,376 | 28,676 | | 6H | 42,000 | 40,051 | 40,316 | 38,752 | 39,252 |
| | 7H | 30,000 | 29,026 | 29,276 | 28,376 | 28,751 | | 7H | 42,000 | 40,051 | 40,386 | 38,752 | 39,382 |
| M 30 x 2 | 5H | 30,000 | 28,701 | 28,881 | 27,835 | 28,135 | M 42 x 4 | 5H | 42,000 | 39,402 | 39,638 | 37,670 | 38,145 |
| | 6H | 30,000 | 28,701 | 28,925 | 27,835 | 28,210 | | 6H | 42,000 | 39,402 | 39,702 | 37,670 | 38,270 |
| | 7H | 30,000 | 28,701 | 28,981 | 27,835 | 28,310 | | 7H | 42,000 | 39,402 | 39,777 | 37,670 | 38,420 |
| M 30 x 3 | 5H | 30,000 | 28,051 | 28,263 | 26,752 | 27,152 | M 45 x 1,5 | 5H | 45,000 | 44,026 | 44,186 | 43,376 | 43,612 |
| | 6H | 30,000 | 28,051 | 28,316 | 26,752 | 27,252 | | 6H | 45,000 | 44,026 | 44,226 | 43,376 | 43,676 |
| | 7H | 30,000 | 28,051 | 28,386 | 26,752 | 27,382 | | 7H | 45,000 | 44,026 | 44,276 | 43,376 | 43,751 |
| M 32 x 1,5 | 5H | 32,000 | 31,026 | 31,186 | 30,376 | 30,612 | M 45 x 2 | 5H | 45,000 | 43,701 | 43,881 | 42,835 | 43,135 |
| | 6H | 32,000 | 31,026 | 31,226 | 30,376 | 30,676 | | 6H | 45,000 | 43,701 | 43,925 | 42,835 | 43,210 |
| | 7H | 32,000 | 31,026 | 31,276 | 30,376 | 30,751 | | 7H | 45,000 | 43,701 | 43,981 | 42,835 | 43,310 |
| M 32 x 2 | 5H | 32,000 | 30,701 | 30,881 | 29,835 | 30,135 | M 45 x 3 | 5H | 45,000 | 43,051 | 43,263 | 41,752 | 42,152 |
| | 6H | 32,000 | 30,701 | 30,925 | 29,835 | 30,210 | | 6H | 45,000 | 43,051 | 43,316 | 41,752 | 42,252 |
| | 7H | 32,000 | 30,701 | 30,981 | 29,835 | 30,310 | | 7H | 45,000 | 43,051 | 43,386 | 41,752 | 42,382 |
| M 33 x 1,5 | 5H | 33,000 | 32,026 | 32,186 | 31,376 | 31,612 | M 45 x 4 | 5H | 45,000 | 42,402 | 42,638 | 40,670 | 41,145 |
| | 6H | 33,000 | 32,026 | 32,226 | 31,376 | 31,676 | | 6H | 45,000 | 42,402 | 42,702 | 40,670 | 41,270 |
| | 7H | 33,000 | 32,026 | 32,276 | 31,376 | 31,751 | | 7H | 45,000 | 42,402 | 42,777 | 40,670 | 41,420 |
| M 33 x 2 | 5H | 33,000 | 31,701 | 31,881 | 30,835 | 31,135 | M 48 x 1,5 | 5H | 48,000 | 47,026 | 47,196 | 46,376 | 46,612 |
| | 6H | 33,000 | 31,701 | 31,925 | 30,835 | 31,210 | | 6H | 48,000 | 47,026 | 47,238 | 46,376 | 46,676 |
| | 7H | 33,000 | 31,701 | 31,981 | 30,835 | 31,310 | | 7H | 48,000 | 47,026 | 47,291 | 46,376 | 46,751 |
| M 33 x 3 | 5H | 33,000 | 31,051 | 31,263 | 29,752 | 30,152 | M 48 x 2 | 5H | 48,000 | 46,701 | 46,891 | 45,835 | 46,135 |
| | 6H | 33,000 | 31,051 | 31,316 | 29,752 | 30,252 | | 6H | 48,000 | 46,701 | 46,937 | 45,835 | 46,210 |
| | 7H | 33,000 | 31,051 | 31,386 | 29,752 | 30,382 | | 7H | 48,000 | 46,701 | 47,001 | 45,835 | 46,310 |
| M 35 x 1,5 | 5H | 35,000 | 34,026 | 34,186 | 33,376 | 33,612 | M 48 x 3 | 5H | 48,000 | 46,051 | 46,275 | 44,752 | 45,152 |
| | 6H | 35,000 | 34,026 | 34,226 | 33,376 | 33,676 | | 6H | 48,000 | 46,051 | 46,331 | 44,752 | 45,252 |
| | 7H | 35,000 | 34,026 | 34,276 | 33,376 | 33,751 | | 7H | 48,000 | 46,051 | 46,406 | 44,752 | 45,382 |

ROSCA ISO-METRICA FINA
ISO-METRIC FINE THREAD
FILETAGE MÉTRIQUE ISO FINE

TUERCA • NUT • ÉCROU
DIN 13 MF

| Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | | Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | |
|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|
| | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. | | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. |
| M 48x4 | 5H | 48,000 | 45,402 | 45,652 | 43,670 | 44,145 | M 60 x 1,5 | 5H | 60,000 | 59,026 | 59,196 | 58,376 | 58,612 |
| | 6H | 48,000 | 45,402 | 45,717 | 43,670 | 44,270 | | 6H | 60,000 | 59,026 | 59,238 | 58,376 | 58,676 |
| | 7H | 48,000 | 45,402 | 45,802 | 43,670 | 44,420 | | 7H | 60,000 | 59,026 | 59,291 | 58,376 | 58,751 |
| M 50 x 15 | 5H | 50,000 | 49,026 | 49,196 | 48,376 | 48,612 | M 60 x 2 | 5H | 60,000 | 58,701 | 58,891 | 57,835 | 58,135 |
| | 6H | 50,000 | 49,026 | 49,238 | 48,376 | 48,676 | | 6H | 60,000 | 58,701 | 58,937 | 57,835 | 58,210 |
| | 7H | 50,000 | 49,026 | 49,291 | 48,376 | 48,751 | | 7H | 60,000 | 58,701 | 59,001 | 57,835 | 58,310 |
| M 50 x 2 | 5H | 50,000 | 48,701 | 48,891 | 47,835 | 48,135 | M 60 x 3 | 5H | 60,000 | 58,051 | 58,275 | 56,752 | 57,152 |
| | 6H | 50,000 | 48,701 | 48,937 | 47,835 | 48,210 | | 6H | 60,000 | 58,051 | 58,331 | 56,752 | 57,252 |
| | 7H | 50,000 | 48,701 | 49,001 | 47,835 | 48,310 | | 7H | 60,000 | 58,051 | 58,406 | 56,752 | 57,382 |
| M 50 x 3 | 5H | 50,000 | 48,051 | 48,275 | 46,752 | 47,152 | M 60 x 4 | 5H | 60,000 | 57,402 | 57,652 | 55,670 | 56,145 |
| | 6H | 50,000 | 48,051 | 48,331 | 46,752 | 47,252 | | 6H | 60,000 | 57,402 | 57,717 | 55,670 | 56,270 |
| | 7H | 50,000 | 48,051 | 48,406 | 46,752 | 47,382 | | 7H | 60,000 | 57,402 | 57,802 | 55,670 | 56,420 |
| M 52 x 1,5 | 5H | 52,000 | 51,026 | 51,196 | 50,376 | 50,612 | M 62 x 1,5 | 5H | 62,000 | 61,026 | 61,196 | 60,376 | 60,612 |
| | 6H | 52,000 | 51,026 | 51,238 | 50,376 | 50,676 | | 6H | 62,000 | 61,026 | 61,291 | 60,376 | 60,676 |
| | 7H | 52,000 | 51,026 | 51,291 | 50,376 | 50,751 | | 7H | 62,000 | 61,026 | 61,291 | 60,376 | 60,751 |
| M 52 x 2 | 5H | 52,000 | 50,701 | 50,891 | 49,835 | 50,135 | M 62 x 2 | 5H | 62,000 | 60,701 | 60,891 | 59,835 | 60,135 |
| | 6H | 52,000 | 50,701 | 50,937 | 49,835 | 50,210 | | 6H | 62,000 | 60,701 | 60,937 | 59,835 | 60,210 |
| | 7H | 52,000 | 50,701 | 51,001 | 49,835 | 50,310 | | 7H | 62,000 | 60,701 | 61,001 | 59,835 | 60,310 |
| M 52 x 3 | 5H | 52,000 | 50,051 | 50,275 | 48,752 | 49,152 | M 62 x 3 | 5H | 62,000 | 60,051 | 60,275 | 58,752 | 59,152 |
| | 6H | 52,000 | 50,051 | 50,331 | 48,752 | 49,252 | | 6H | 62,000 | 60,051 | 60,331 | 58,752 | 59,252 |
| | 7H | 52,000 | 50,051 | 50,406 | 48,752 | 49,382 | | 7H | 62,000 | 60,051 | 60,406 | 58,752 | 59,382 |
| M 52 x 4 | 5H | 52,000 | 49,402 | 49,652 | 47,670 | 48,145 | M 62 x 4 | 5H | 62,000 | 59,402 | 59,652 | 57,670 | 58,145 |
| | 6H | 52,000 | 49,402 | 49,717 | 47,670 | 48,270 | | 6H | 62,000 | 59,402 | 59,717 | 57,670 | 58,270 |
| | 7H | 52,000 | 49,402 | 49,802 | 47,670 | 48,420 | | 7H | 62,000 | 59,402 | 59,802 | 57,670 | 58,420 |
| M 55 x 1,5 | 5H | 55,000 | 54,026 | 54,196 | 53,376 | 53,612 | M 64 x 1,5 | 5H | 64,000 | 63,026 | 63,196 | 62,376 | 62,612 |
| | 6H | 55,000 | 54,026 | 54,238 | 53,376 | 53,676 | | 6H | 64,000 | 63,026 | 63,238 | 62,376 | 62,676 |
| | 7H | 55,000 | 54,026 | 54,291 | 53,376 | 53,751 | | 7H | 64,000 | 63,026 | 63,291 | 62,376 | 62,751 |
| M 55 x 2 | 5H | 55,000 | 53,701 | 53,891 | 52,835 | 53,135 | M 64 x 2 | 5H | 64,000 | 62,701 | 62,891 | 61,835 | 62,135 |
| | 6H | 55,000 | 53,701 | 53,937 | 52,835 | 53,210 | | 6H | 64,000 | 62,701 | 62,937 | 61,835 | 62,210 |
| | 7H | 55,000 | 53,701 | 54,001 | 52,835 | 53,310 | | 7H | 64,000 | 62,701 | 63,001 | 61,835 | 62,310 |
| M 55 x 3 | 5H | 55,000 | 53,051 | 53,275 | 51,752 | 52,152 | M 64 x 3 | 5H | 64,000 | 62,051 | 62,275 | 60,752 | 61,152 |
| | 6H | 55,000 | 53,051 | 53,331 | 51,752 | 52,252 | | 6H | 64,000 | 62,051 | 62,331 | 60,752 | 61,252 |
| | 7H | 55,000 | 53,051 | 53,406 | 51,752 | 52,382 | | 7H | 64,000 | 62,051 | 62,406 | 60,752 | 61,382 |
| M 55 x 4 | 5H | 55,000 | 52,402 | 52,652 | 50,670 | 51,145 | M 64 x 4 | 5H | 64,000 | 61,402 | 61,652 | 59,670 | 60,145 |
| | 6H | 55,000 | 52,402 | 52,717 | 50,670 | 51,270 | | 6H | 64,000 | 61,402 | 61,717 | 59,670 | 60,270 |
| | 7H | 55,000 | 52,402 | 52,802 | 50,670 | 51,420 | | 7H | 64,000 | 61,402 | 61,802 | 59,670 | 60,420 |
| M 56 x 1,5 | 5H | 56,000 | 55,026 | 54,196 | 54,376 | 54,612 | M 65 x 1,5 | 5H | 65,000 | 64,026 | 64,196 | 63,376 | 64,612 |
| | 6H | 56,000 | 55,026 | 55,238 | 54,376 | 54,676 | | 6H | 65,000 | 64,026 | 64,238 | 63,376 | 63,676 |
| | 7H | 56,000 | 55,026 | 55,291 | 54,376 | 54,751 | | 7H | 65,000 | 64,026 | 64,291 | 63,376 | 63,751 |
| M 56 x 2 | 5H | 56,000 | 54,701 | 54,891 | 53,835 | 54,135 | M 65 x 2 | 5H | 65,000 | 63,701 | 63,891 | 62,835 | 63,135 |
| | 6H | 56,000 | 54,701 | 54,937 | 53,835 | 54,210 | | 6H | 65,000 | 63,701 | 63,937 | 62,835 | 63,210 |
| | 7H | 56,000 | 54,701 | 55,001 | 53,835 | 54,310 | | 7H | 65,000 | 63,701 | 64,001 | 62,835 | 63,310 |
| M 56 x 3 | 5H | 56,000 | 54,051 | 54,275 | 52,752 | 53,152 | M 65 x 3 | 5H | 65,000 | 63,051 | 63,275 | 61,752 | 62,152 |
| | 6H | 56,000 | 54,051 | 54,331 | 52,752 | 53,252 | | 6H | 65,000 | 63,051 | 63,331 | 61,752 | 62,252 |
| | 7H | 56,000 | 54,051 | 54,406 | 52,752 | 53,382 | | 7H | 65,000 | 63,051 | 63,406 | 61,752 | 62,382 |
| M 56 x 4 | 5H | 56,000 | 53,402 | 53,652 | 51,670 | 52,145 | M 65 x 4 | 5H | 65,000 | 62,402 | 62,652 | 60,670 | 61,145 |
| | 6H | 56,000 | 53,402 | 53,717 | 51,670 | 52,270 | | 6H | 65,000 | 62,402 | 62,717 | 60,670 | 61,270 |
| | 7H | 56,000 | 53,402 | 53,802 | 51,670 | 52,420 | | 7H | 65,000 | 62,402 | 62,802 | 60,670 | 61,420 |
| M 58 x 1,5 | 5H | 58,000 | 57,026 | 57,196 | 56,376 | 56,612 | M 68 x 1,5 | 5H | 68,000 | 67,026 | 67,196 | 66,376 | 66,612 |
| | 6H | 58,000 | 57,026 | 57,238 | 56,376 | 56,676 | | 6H | 68,000 | 67,026 | 67,238 | 66,376 | 66,676 |
| | 7H | 58,000 | 57,026 | 57,291 | 56,376 | 56,751 | | 7H | 68,000 | 67,026 | 67,291 | 66,376 | 66,751 |
| M 58 x 2 | 5H | 58,000 | 56,701 | 56,891 | 55,835 | 56,135 | M 68 x 2 | 5H | 68,000 | 66,701 | 66,891 | 65,835 | 66,135 |
| | 6H | 58,000 | 56,701 | 56,937 | 55,835 | 56,210 | | 6H | 68,000 | 66,701 | 66,937 | 65,835 | 66,210 |
| | 7H | 58,000 | 56,701 | 57,001 | 55,835 | 56,310 | | 7H | 68,000 | 66,701 | 67,001 | 65,835 | 66,310 |
| M 58 x 3 | 5H | 58,000 | 56,051 | 56,275 | 54,752 | 55,152 | M 68 x 3 | 5H | 68,000 | 66,051 | 66,275 | 64,752 | 65,152 |
| | 6H | 58,000 | 56,051 | 56,331 | 54,752 | 55,252 | | 6H | 68,000 | 66,051 | 66,331 | 64,752 | 65,252 |
| | 7H | 58,000 | 56,051 | 56,406 | 54,752 | 55,382 | | 7H | 68,000 | 66,051 | 66,406 | 64,752 | 65,382 |
| M 58 x 4 | 5H | 58,000 | 55,402 | 55,652 | 53,670 | 54,145 | M 68 x 4 | 5H | 68,000 | 65,402 | 65,652 | 63,670 | 64,145 |
| | 6H | 58,000 | 55,402 | 55,717 | 53,670 | 54,270 | | 6H | 68,000 | 65,402 | 65,717 | 63,670 | 64,270 |
| | 7H | 58,000 | 55,402 | 55,802 | 53,670 | 54,420 | | 7H | 68,000 | 65,402 | 65,802 | 63,670 | 64,420 |

**ROSCA ISO-METRICA FINA
ISO-METRIC FINE THREAD
FILETAGE MÉTRIQUE ISO FINE**

TUERCA • NUT • ÉCROU

DIN 13

MF

| Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | | Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø Ø Extérieur | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | |
|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|--------------------------|--------------------------------|----------------------------------|---------------------------|---------------------|---------------------------|---------------------|
| | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. | | | | D ₂ min. | D ₂ máx. | D ₁ min. | D ₁ máx. |
| M 70 x 1,5 | 5H | 70,000 | 69,026 | 69,196 | 68,376 | 68,612 | M 80 x 2 | 5H | 80,000 | 78,701 | 78,891 | 77,835 | 78,135 |
| | 6H | 70,000 | 69,026 | 69,238 | 68,376 | 68,676 | | 6H | 80,000 | 78,701 | 78,937 | 77,835 | 78,210 |
| | 7H | 70,000 | 69,026 | 69,291 | 68,376 | 68,751 | | 7H | 80,000 | 78,701 | 79,001 | 77,835 | 78,310 |
| M 70 x 2 | 5H | 70,000 | 68,701 | 68,891 | 67,835 | 68,135 | M 80 x 3 | 5H | 80,000 | 78,051 | 78,275 | 76,752 | 77,152 |
| | 6H | 70,000 | 68,701 | 68,937 | 67,835 | 68,210 | | 6H | 80,000 | 78,051 | 78,331 | 76,752 | 77,252 |
| | 7H | 70,000 | 68,701 | 69,001 | 67,835 | 68,310 | | 7H | 80,000 | 78,051 | 78,406 | 76,752 | 77,382 |
| M 70 x 3 | 5H | 70,000 | 68,051 | 68,275 | 66,752 | 67,152 | M 80 x 4 | 5H | 80,000 | 77,402 | 77,652 | 75,670 | 76,145 |
| | 6H | 70,000 | 68,051 | 68,331 | 66,752 | 67,252 | | 6H | 80,000 | 77,402 | 77,717 | 75,670 | 76,270 |
| | 7H | 70,000 | 68,051 | 68,406 | 66,752 | 67,382 | | 7H | 80,000 | 77,402 | 77,802 | 75,670 | 76,420 |
| M 70 x 4 | 5H | 70,000 | 67,402 | 67,652 | 65,670 | 66,145 | M 80 x 6 | 5H | 80,000 | 76,103 | 76,403 | 73,505 | 74,135 |
| | 6H | 70,000 | 67,402 | 67,717 | 65,670 | 66,270 | | 6H | 80,000 | 76,103 | 76,478 | 73,505 | 74,305 |
| | 7H | 70,000 | 67,402 | 67,802 | 65,670 | 66,420 | | 7H | 80,000 | 76,103 | 76,578 | 73,505 | 74,505 |
| M 70 x 6 | 5H | 70,000 | 66,103 | 66,403 | 63,505 | 64,135 | M 85 x 2 | 5H | 85,000 | 83,701 | 83,891 | 82,835 | 83,135 |
| | 6H | 70,000 | 66,103 | 66,478 | 63,505 | 64,305 | | 6H | 85,000 | 83,701 | 83,937 | 82,835 | 83,210 |
| | 7H | 70,000 | 66,103 | 66,578 | 63,505 | 64,505 | | 7H | 85,000 | 83,701 | 84,001 | 82,835 | 83,310 |
| M 72 x 1,5 | 5H | 72,000 | 71,026 | 71,196 | 70,376 | 70,612 | M 85 x 3 | 5H | 85,000 | 83,051 | 83,275 | 81,752 | 82,152 |
| | 6H | 72,000 | 71,026 | 71,238 | 70,376 | 70,676 | | 6H | 85,000 | 83,051 | 83,331 | 81,752 | 82,252 |
| | 7H | 72,000 | 71,026 | 71,291 | 70,376 | 70,751 | | 7H | 85,000 | 83,051 | 83,406 | 81,752 | 82,382 |
| M 72 x 2 | 5H | 72,000 | 70,701 | 70,891 | 69,835 | 70,135 | M 85 x 4 | 5H | 85,000 | 82,402 | 82,652 | 80,670 | 81,145 |
| | 6H | 72,000 | 70,701 | 70,937 | 69,835 | 70,210 | | 6H | 85,000 | 82,402 | 82,717 | 80,670 | 81,270 |
| | 7H | 72,000 | 70,701 | 71,001 | 69,835 | 70,310 | | 7H | 85,000 | 82,402 | 82,802 | 80,670 | 81,420 |
| M 72 x 3 | 5H | 72,000 | 70,051 | 70,275 | 68,752 | 69,152 | M 85 x 6 | 5H | 85,000 | 81,103 | 81,403 | 78,505 | 79,135 |
| | 6H | 72,000 | 70,051 | 70,331 | 68,752 | 69,252 | | 6H | 85,000 | 81,103 | 81,478 | 78,505 | 79,305 |
| | 7H | 72,000 | 70,051 | 70,406 | 68,752 | 69,382 | | 7H | 85,000 | 81,103 | 81,578 | 78,505 | 79,505 |
| M 72 x 4 | 5H | 72,000 | 69,402 | 69,652 | 67,670 | 68,145 | M 90 x 2 | 5H | 90,000 | 88,701 | 88,891 | 87,835 | 88,135 |
| | 6H | 72,000 | 69,402 | 69,717 | 67,670 | 68,270 | | 6H | 90,000 | 88,701 | 88,937 | 87,835 | 88,210 |
| | 7H | 72,000 | 69,402 | 69,802 | 67,670 | 68,420 | | 7H | 90,000 | 88,701 | 89,001 | 87,835 | 88,310 |
| M 72 x 6 | 5H | 72,000 | 68,103 | 68,403 | 65,505 | 66,135 | M 90 x 3 | 5H | 90,000 | 88,051 | 88,275 | 86,752 | 87,152 |
| | 6H | 72,000 | 68,103 | 68,478 | 65,505 | 66,305 | | 6H | 90,000 | 88,051 | 88,331 | 86,752 | 87,252 |
| | 7H | 72,000 | 68,103 | 68,578 | 65,505 | 66,505 | | 7H | 90,000 | 88,051 | 88,406 | 86,752 | 87,382 |
| M 75 x 1,5 | 5H | 75,000 | 74,026 | 74,196 | 73,376 | 73,612 | M 90 x 4 | 5H | 90,000 | 87,402 | 87,652 | 85,670 | 86,145 |
| | 6H | 75,000 | 74,026 | 74,238 | 73,376 | 73,676 | | 6H | 90,000 | 87,402 | 87,717 | 85,670 | 86,270 |
| | 7H | 75,000 | 74,026 | 74,291 | 73,376 | 73,751 | | 7H | 90,000 | 87,402 | 85,802 | 85,670 | 86,420 |
| M 75 x 2 | 5H | 75,000 | 73,701 | 73,891 | 72,835 | 73,135 | M 90 x 6 | 5H | 90,000 | 86,103 | 86,403 | 83,505 | 84,135 |
| | 6H | 75,000 | 73,701 | 73,937 | 72,835 | 73,210 | | 6H | 90,000 | 86,103 | 86,478 | 83,505 | 84,305 |
| | 7H | 75,000 | 73,701 | 74,001 | 72,835 | 73,310 | | 7H | 90,000 | 86,103 | 86,578 | 83,505 | 84,505 |
| M 75 x 3 | 5H | 75,000 | 73,051 | 73,275 | 71,752 | 72,152 | M 95 x 2 | 5H | 95,000 | 93,701 | 93,901 | 92,835 | 93,135 |
| | 6H | 75,000 | 73,051 | 73,331 | 71,752 | 72,252 | | 6H | 95,000 | 93,701 | 93,951 | 92,835 | 93,210 |
| | 7H | 75,000 | 73,051 | 73,406 | 71,752 | 72,382 | | 7H | 95,000 | 93,701 | 94,016 | 92,835 | 93,310 |
| M 75 x 4 | 5H | 75,000 | 72,402 | 72,652 | 70,670 | 71,145 | M 95 x 3 | 5H | 95,000 | 93,051 | 93,287 | 91,752 | 92,152 |
| | 6H | 75,000 | 72,402 | 72,717 | 70,670 | 71,270 | | 6H | 95,000 | 93,051 | 93,351 | 91,752 | 92,252 |
| | 7H | 75,000 | 72,402 | 72,802 | 70,670 | 71,420 | | 7H | 95,000 | 93,051 | 93,426 | 91,752 | 92,382 |
| M 76 x 1,5 | 5H | 76,000 | 75,026 | 75,196 | 74,376 | 74,612 | M 95 x 4 | 5H | 95,000 | 92,402 | 92,667 | 90,670 | 91,145 |
| | 6H | 76,000 | 75,026 | 75,238 | 74,376 | 74,676 | | 6H | 95,000 | 92,402 | 92,737 | 90,670 | 91,270 |
| | 7H | 76,000 | 75,026 | 75,291 | 74,376 | 74,751 | | 7H | 95,000 | 92,402 | 92,827 | 90,670 | 91,420 |
| M 76 x 2 | 5H | 76,000 | 74,701 | 74,891 | 73,835 | 74,135 | M 95 x 6 | 5H | 95,000 | 91,103 | 91,418 | 88,505 | 89,135 |
| | 6H | 76,000 | 74,701 | 74,937 | 73,835 | 74,210 | | 6H | 95,000 | 91,103 | 91,503 | 88,505 | 89,305 |
| | 7H | 76,000 | 74,701 | 75,001 | 73,835 | 74,310 | | 7H | 95,000 | 91,103 | 91,603 | 88,505 | 89,505 |
| M 76 x 3 | 5H | 76,000 | 74,051 | 74,275 | 72,752 | 73,152 | M 100 x 2 | 5H | 100,000 | 98,701 | 98,901 | 97,835 | 98,135 |
| | 6H | 76,000 | 74,051 | 74,331 | 72,752 | 73,252 | | 6H | 100,000 | 98,701 | 98,951 | 97,835 | 98,210 |
| | 7H | 76,000 | 74,051 | 74,406 | 72,752 | 73,382 | | 7H | 100,000 | 98,701 | 99,016 | 97,835 | 98,310 |
| M 76 x 4 | 5H | 76,000 | 73,402 | 73,652 | 71,670 | 72,145 | M 100 x 3 | 5H | 100,000 | 98,051 | 98,287 | 96,752 | 97,152 |
| | 6H | 76,000 | 73,402 | 73,717 | 71,670 | 72,270 | | 6H | 100,000 | 98,051 | 98,351 | 96,752 | 97,252 |
| | 7H | 76,000 | 73,402 | 73,802 | 71,670 | 72,420 | | 7H | 100,000 | 98,051 | 98,426 | 96,752 | 97,382 |
| M 76 x 6 | 5H | 76,000 | 72,103 | 72,403 | 69,505 | 70,135 | M 100 x 4 | 5H | 100,000 | 97,402 | 97,667 | 95,670 | 96,145 |
| | 6H | 76,000 | 72,103 | 72,478 | 69,505 | 70,305 | | 6H | 100,000 | 97,402 | 97,737 | 95,670 | 96,270 |
| | 7H | 76,000 | 72,103 | 72,576 | 69,505 | 70,505 | | 7H | 100,000 | 97,402 | 97,824 | 95,670 | 96,420 |
| M 80 x 1,5 | 5H | 80,000 | 79,026 | 79,196 | 78,376 | 78,612 | M 100 x 6 | 5H | 100,000 | 96,103 | 96,418 | 93,505 | 94,135 |
| | 6H | 80,000 | 79,026 | 79,238 | 78,376 | 78,676 | | 6H | 100,000 | 96,103 | 96,503 | 93,505 | 94,305 |
| | 7H | 80,000 | 79,026 | 79,291 | 78,376 | 78,751 | | 7H | 100,000 | 96,103 | 96,603 | 93,505 | 94,505 |

**ROSCA ISO-METRICA FINA
ISO-METRIC FINE THREAD
FILETAGE MÉTRIQUE ISO FINE**

TORNILLO • SCREW • VIS

MF

DIN 13

| Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø / Ø Extérieur | | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | | Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø / Ø Extérieur | | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | |
|--------------------------|--------------------------------|------------------------------------|--------|---------------------------|---------------------|---------------------------|---------------------|--------------------------|--------------------------------|------------------------------------|--------|---------------------------|---------------------|---------------------------|---------------------|
| | | d máx. | d min. | d ₂ máx. | d ₂ min. | d _n máx. | d _n min. | | | d máx. | d min. | d ₂ máx. | d ₂ min. | d _n máx. | d _n min. |
| M 1 x 0,2 | 4h | 1,000 | 0,964 | 0,870 | 0,840 | 0,755 | 0,718 | M 12 x 1 | 4h | 12,000 | 11,888 | 11,350 | 11,275 | 10,773 | 10,659 |
| | 6h | 1,000 | 0,944 | 0,870 | 0,822 | 0,755 | 0,700 | | 6g | 11,974 | 11,794 | 11,324 | 11,206 | 10,747 | 10,590 |
| M 1,1 x 0,2 | 4h | 1,100 | 1,064 | 0,970 | 0,940 | 0,855 | 0,818 | M 12 x 1,25 | 4h | 12,000 | 11,868 | 11,188 | 11,103 | 10,466 | 10,333 |
| | 6h | 1,100 | 1,044 | 0,970 | 0,922 | 0,855 | 0,800 | | 6g | 11,972 | 11,760 | 11,160 | 11,028 | 10,438 | 10,258 |
| M 1,2 x 0,2 | 4h | 1,200 | 1,164 | 1,070 | 1,040 | 0,955 | 0,918 | M 12 x 1,5 | 4h | 12,000 | 11,850 | 11,026 | 10,936 | 10,160 | 10,012 |
| | 6h | 1,200 | 1,144 | 1,070 | 1,022 | 0,955 | 0,900 | | 6g | 11,968 | 11,732 | 10,994 | 10,854 | 10,128 | 9,930 |
| M 1,4 x 0,2 | 4h | 1,400 | 1,364 | 1,270 | 1,240 | 1,155 | 1,118 | M 14 x 1 | 4h | 14,000 | 13,888 | 13,350 | 13,275 | 12,773 | 12,659 |
| | 6h | 1,400 | 1,344 | 1,270 | 1,222 | 1,155 | 1,100 | | 6g | 13,974 | 13,794 | 13,324 | 13,206 | 12,747 | 12,590 |
| M 1,6 x 0,2 | 4h | 1,600 | 1,564 | 1,470 | 1,438 | 1,355 | 1,316 | M 14 x 1,25 | 4h | 14,000 | 13,868 | 13,188 | 13,103 | 12,466 | 12,333 |
| | 6g | 1,583 | 1,527 | 1,453 | 1,403 | 1,338 | 1,281 | | 6g | 13,972 | 13,760 | 13,160 | 13,028 | 12,438 | 12,258 |
| M 1,8 x 0,2 | 4h | 1,800 | 1,764 | 1,670 | 1,638 | 1,555 | 1,516 | M 14 x 1,5 | 4h | 14,000 | 13,850 | 13,026 | 12,936 | 12,160 | 12,012 |
| | 6g | 1,783 | 1,727 | 1,653 | 1,603 | 1,538 | 1,481 | | 6g | 13,968 | 13,732 | 12,994 | 12,854 | 12,128 | 11,930 |
| M 2 x 0,25 | 4h | 2,000 | 1,958 | 1,838 | 1,802 | 1,693 | 1,647 | M 15 x 1 | 4h | 15,000 | 14,888 | 14,350 | 14,275 | 13,773 | 13,659 |
| | 6g | 1,982 | 1,915 | 1,820 | 1,764 | 1,675 | 1,609 | | 6g | 14,974 | 14,794 | 14,324 | 14,206 | 13,747 | 13,590 |
| M 2,2 x 0,25 | 4h | 2,200 | 2,158 | 2,038 | 2,002 | 1,893 | 1,847 | M 15 x 1,5 | 4h | 15,000 | 14,850 | 14,026 | 13,936 | 13,160 | 13,012 |
| | 6g | 2,182 | 2,115 | 2,020 | 1,964 | 1,875 | 1,809 | | 6g | 14,968 | 14,732 | 13,994 | 13,854 | 13,128 | 12,846 |
| M 2,5 x 0,35 | 4h | 2,400 | 2,447 | 2,273 | 2,233 | 2,071 | 2,018 | M 16 x 1 | 4h | 16,000 | 15,888 | 15,350 | 15,275 | 14,773 | 14,659 |
| | 6g | 2,481 | 2,396 | 2,254 | 2,191 | 2,052 | 1,976 | | 6g | 15,974 | 15,794 | 15,324 | 15,206 | 14,747 | 14,590 |
| M 3 x 0,35 | 4h | 3,000 | 2,947 | 2,773 | 2,731 | 2,571 | 2,516 | M 16 x 1,5 | 4h | 16,000 | 15,850 | 15,026 | 14,936 | 14,160 | 14,012 |
| | 6g | 2,981 | 2,896 | 2,754 | 2,687 | 2,552 | 2,472 | | 6g | 15,968 | 15,732 | 14,994 | 14,854 | 14,128 | 13,930 |
| M 3,5 x 0,35 | 4h | 3,500 | 3,447 | 3,273 | 3,231 | 3,071 | 3,016 | M 16 x 1,5 | 4h | 16,000 | 15,850 | 15,026 | 14,936 | 14,160 | 14,012 |
| | 6g | 3,481 | 3,396 | 3,254 | 3,187 | 3,052 | 2,972 | | 6g | 15,974 | 15,794 | 15,324 | 15,206 | 14,747 | 14,518 |
| M 4 x 0,5 | 4h | 4,000 | 3,933 | 3,675 | 3,627 | 3,387 | 3,320 | M 17 x 1 | 4h | 17,000 | 16,888 | 16,350 | 16,275 | 15,773 | 15,659 |
| | 6g | 3,980 | 3,874 | 3,655 | 3,580 | 3,367 | 3,273 | | 6g | 16,974 | 16,794 | 16,324 | 16,206 | 15,747 | 15,518 |
| M 4,5 x 0,5 | 4h | 4,500 | 4,433 | 4,175 | 4,127 | 3,867 | 3,820 | M 17 x 1,5 | 4h | 17,000 | 16,850 | 16,026 | 15,936 | 15,160 | 15,012 |
| | 6g | 4,480 | 4,374 | 4,155 | 4,080 | 3,867 | 3,773 | | 6g | 16,968 | 16,732 | 15,994 | 15,854 | 15,128 | 14,930 |
| M 5 x 0,5 | 4h | 5,000 | 4,933 | 4,675 | 4,627 | 4,387 | 4,320 | M 18 x 1 | 4h | 18,000 | 17,888 | 17,350 | 17,275 | 16,773 | 16,659 |
| | 6g | 4,980 | 4,874 | 4,655 | 4,580 | 4,367 | 4,273 | | 6g | 17,974 | 17,794 | 17,324 | 17,206 | 16,747 | 16,590 |
| M 5,5 x 0,5 | 4h | 5,500 | 5,433 | 5,175 | 5,127 | 4,887 | 4,820 | M 18 x 1,5 | 4h | 18,000 | 17,850 | 17,026 | 16,936 | 16,160 | 15,012 |
| | 6g | 5,480 | 5,374 | 5,155 | 5,080 | 4,867 | 4,773 | | 6g | 17,968 | 17,732 | 16,994 | 16,854 | 16,128 | 15,846 |
| M 6 x 0,5 | 4h | 6,000 | 5,933 | 5,675 | 5,622 | 5,387 | 5,315 | M 18 x 2 | 4h | 18,000 | 17,820 | 16,701 | 16,601 | 15,546 | 15,369 |
| | 6g | 5,980 | 5,874 | 5,655 | 5,570 | 5,367 | 5,263 | | 6g | 17,962 | 17,682 | 16,663 | 16,503 | 15,508 | 15,271 |
| M 6 x 0,75 | 4h | 6,000 | 5,910 | 5,513 | 5,450 | 5,080 | 4,988 | M 20 x 1 | 4h | 20,000 | 19,888 | 19,350 | 19,275 | 18,773 | 18,659 |
| | 6g | 5,978 | 5,838 | 5,491 | 5,391 | 5,058 | 4,929 | | 6g | 19,974 | 19,794 | 19,324 | 19,206 | 18,747 | 18,590 |
| M 7 x 0,75 | 4h | 7,000 | 6,910 | 6,513 | 6,450 | 6,080 | 5,988 | M 20 x 1,5 | 4h | 20,000 | 19,850 | 19,026 | 18,936 | 18,160 | 18,012 |
| | 6g | 6,978 | 6,838 | 6,491 | 6,391 | 6,058 | 5,929 | | 6g | 19,968 | 19,732 | 18,994 | 18,854 | 18,128 | 17,930 |
| M 8 x 0,5 | 4h | 8,000 | 7,933 | 7,675 | 7,622 | 7,387 | 7,315 | M 20 x 2 | 4h | 20,000 | 19,820 | 18,701 | 18,601 | 17,546 | 17,369 |
| | 6g | 7,980 | 7,874 | 7,655 | 7,570 | 7,367 | 7,263 | | 6g | 19,962 | 19,682 | 18,663 | 18,503 | 17,508 | 17,271 |
| M 8 x 0,75 | 4h | 8,000 | 7,910 | 7,513 | 7,450 | 7,080 | 6,988 | M 22 x 1 | 4h | 22,000 | 21,888 | 21,350 | 21,275 | 20,773 | 20,659 |
| | 6g | 7,978 | 7,838 | 7,491 | 7,391 | 7,058 | 6,929 | | 6g | 21,974 | 21,794 | 21,324 | 21,206 | 20,747 | 20,590 |
| M 8 x 1 | 4h | 8,000 | 7,888 | 7,350 | 7,279 | 6,773 | 6,663 | M 22 x 1,5 | 4h | 22,000 | 21,850 | 21,026 | 20,936 | 20,160 | 20,012 |
| | 6g | 7,974 | 7,794 | 7,324 | 7,212 | 6,747 | 6,596 | | 6g | 21,968 | 21,732 | 20,994 | 20,854 | 20,128 | 19,930 |
| M 9 x 1 | 4h | 9,000 | 8,888 | 8,350 | 8,279 | 7,773 | 7,663 | M 22 x 2 | 4h | 22,000 | 21,820 | 20,701 | 20,601 | 19,546 | 19,369 |
| | 6g | 8,974 | 8,794 | 8,324 | 8,212 | 7,747 | 7,596 | | 6g | 21,962 | 21,682 | 20,663 | 20,503 | 19,508 | 19,271 |
| M 10 x 0,75 | 4h | 10,000 | 9,910 | 9,513 | 9,450 | 9,080 | 8,988 | M 22 x 2 | 6g | 21,962 | 21,512 | 20,663 | 20,413 | 19,508 | 19,181 |
| | 6g | 9,978 | 9,838 | 9,491 | 9,391 | 9,058 | 8,929 | | 8g | 21,962 | 21,512 | 20,663 | 20,413 | 19,508 | 19,181 |
| M 10 x 1 | 4h | 10,000 | 9,888 | 9,350 | 9,279 | 8,773 | 8,663 | M 22 x 2 | 4h | 22,000 | 21,888 | 21,350 | 21,275 | 20,773 | 20,659 |
| | 6g | 9,974 | 9,794 | 9,324 | 9,212 | 8,747 | 8,596 | | 6g | 21,974 | 21,694 | 21,324 | 21,206 | 20,747 | 20,518 |
| M 10 x 1,25 | 4h | 10,000 | 9,868 | 9,188 | 9,113 | 8,466 | 8,343 | M 22 x 2 | 4h | 22,000 | 21,850 | 21,026 | 20,936 | 20,160 | 20,012 |
| | 6g | 9,972 | 9,760 | 9,160 | 9,042 | 8,438 | 8,272 | | 6g | 21,968 | 21,732 | 20,994 | 20,854 | 20,128 | 19,930 |
| M 11 x 1 | 4h | 11,000 | 10,988 | 10,350 | 10,279 | 9,773 | 9,663 | M 22 x 2 | 4h | 22,000 | 21,820 | 20,701 | 20,601 | 19,546 | 19,369 |
| | 6g | 10,974 | 10,794 | 10,324 | 10,212 | 9,747 | 9,596 | | 6g | 21,962 | 21,682 | 20,663 | 20,503 | 19,508 | 19,271 |
| M 11 x 1 | 4h | 11,000 | 10,988 | 10,350 | 10,279 | 9,773 | 9,663 | M 22 x 2 | 6g | 21,962 | 21,512 | 20,663 | 20,413 | 19,508 | 19,181 |
| | 8g | 10,974 | 10,694 | 10,324 | 10,144 | 9,747 | 9,528 | | 8g | 21,962 | 21,512 | 20,663 | 20,413 | 19,508 | 19,181 |

**ROSCA ISO-METRICA FINA
ISO-METRIC FINE THREAD
FILETAGE MÉTRIQUE ISO FINE**

**TORNILLO • SCREW • VIS
DIN 13**

MF

| Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø / Ø Extérieur | | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | | Rosca Thread Filet D x P | Tolerancia Tolerance Tolérance | Ø Exterior Outside Ø / Ø Extérieur | | Ø Medio Pitch Ø / Ø Moyen | | Ø Núcleo Core Ø / Ø Noyau | |
|-----------------------------------|--------------------------------------|---------------------------------------|----------------------------|------------------------------|----------------------------|------------------------------|----------------------------|-----------------------------------|--------------------------------------|---------------------------------------|----------------------------|------------------------------|----------------------------|------------------------------|----------------------------|
| | | d máx. | d mín. | d ₂ máx. | d ₂ mín. | d _n máx. | d _n mín. | | | d máx. | d mín. | d ₂ máx. | d ₂ mín. | d _n máx. | d _n mín. |
| | | M 70 x 2 | 4h 6g 8g | 70,000 69,962 69,962 | 69,820 69,682 69,512 | 68,701 68,663 68,663 | 68,589 68,483 67,508 | | | 67,546 67,251 67,151 | 67,357 67,251 67,151 | M 80 x 3 | 4h 6g 8g | 80,000 79,952 79,952 | 79,764 79,577 79,352 |
| M 70 x 3 | 4h 6g 8g | 70,000 69,952 69,952 | 69,764 69,577 69,352 | 68,051 68,003 68,003 | 67,919 67,791 67,668 | 66,319 66,271 66,271 | 66,071 65,943 65,820 | M 80 x 4 | 4h 6g 8g | 80,000 79,940 79,940 | 79,700 79,465 79,190 | 77,402 77,342 77,342 | 77,252 77,106 76,967 | 75,093 75,033 75,033 | 74,789 74,643 74,504 |
| M 70 x 4 | 4h 6g 8g | 70,000 69,940 69,940 | 69,700 69,465 69,190 | 67,402 67,342 67,342 | 67,252 67,106 66,967 | 65,093 65,033 65,033 | 64,789 64,643 64,504 | M 80 x 6 | 4h 6g 8g | 80,000 79,920 79,920 | 79,625 79,320 78,970 | 76,103 76,023 76,023 | 75,923 75,743 75,573 | 72,639 72,559 72,559 | 72,228 72,048 71,878 |
| M 70 x 6 | 4h 6g 8g | 70,000 69,920 69,920 | 69,625 69,320 68,970 | 66,103 66,023 66,023 | 65,923 65,743 65,573 | 62,639 62,559 62,559 | 62,228 62,048 61,878 | M 85 x 2 | 4h 6g 8g | 85,000 84,962 84,962 | 84,820 84,682 84,512 | 83,701 83,663 83,663 | 83,589 83,483 83,383 | 82,546 82,508 82,508 | 82,357 82,251 82,151 |
| M 72 x 1,5 | 4h 6g 8g | 72,000 71,968 71,968 | 71,850 71,732 71,593 | 71,026 70,994 70,994 | 70,926 70,834 70,744 | 70,160 70,128 70,128 | 70,010 69,912 69,820 | M 85 x 3 | 4h 6g 8g | 85,000 84,952 84,952 | 84,764 84,577 84,352 | 83,051 83,003 83,003 | 82,919 82,791 82,668 | 81,319 81,271 81,271 | 81,071 80,943 80,820 |
| M 72 x 2 | 4h 6g 8g | 72,000 71,962 71,962 | 71,820 71,682 71,512 | 70,701 70,663 70,663 | 70,589 70,483 70,383 | 69,546 69,508 69,508 | 69,357 69,251 69,151 | M 85 x 4 | 4h 6g 8g | 85,000 84,940 84,940 | 84,700 84,465 84,190 | 82,402 82,342 82,342 | 82,252 82,106 81,967 | 80,093 80,033 80,033 | 79,789 79,643 79,504 |
| M 72 x 3 | 4h 6g 8g | 72,000 71,952 71,952 | 71,764 71,577 71,352 | 70,051 70,003 70,003 | 69,919 69,791 69,668 | 68,319 68,271 68,271 | 68,071 67,973 67,820 | M 85 x 6 | 4h 6g 8g | 85,000 84,920 84,920 | 84,625 84,320 83,970 | 81,103 81,023 81,023 | 80,923 80,743 80,573 | 77,639 77,559 77,559 | 77,228 77,048 76,878 |
| M 72 x 4 | 4h 6g 8g | 72,000 71,940 71,940 | 71,700 71,465 71,190 | 69,402 69,342 69,342 | 69,252 69,106 68,967 | 67,093 67,033 67,033 | 66,789 66,643 66,504 | M 90 x 2 | 4h 6g 8g | 90,000 89,962 89,962 | 89,820 89,682 89,512 | 88,701 88,663 88,663 | 88,589 88,483 88,383 | 87,546 87,508 87,508 | 87,357 87,251 87,151 |
| M 72 x 6 | 4h 6g 8g | 72,000 71,920 71,920 | 71,625 71,320 70,970 | 68,103 68,023 68,023 | 67,923 67,743 67,573 | 64,639 64,559 64,559 | 64,228 64,048 63,878 | M 90 x 3 | 4h 6g 8g | 90,000 89,952 89,952 | 89,764 89,577 89,352 | 88,051 88,003 88,003 | 87,919 87,791 87,668 | 86,319 86,271 86,271 | 86,071 85,943 85,820 |
| M 75 x 1,5 | 4h 6g 8g | 75,000 74,968 74,968 | 74,850 74,732 74,593 | 74,026 73,994 73,994 | 73,926 73,834 73,744 | 73,160 73,128 73,128 | 73,002 72,910 72,820 | M 90 x 4 | 4h 6g 8g | 90,000 89,940 89,940 | 89,700 89,465 89,190 | 87,402 87,342 87,342 | 87,252 87,106 86,967 | 85,093 85,033 85,033 | 84,789 84,643 84,504 |
| M 75 x 2 | 4h 6g 8g | 75,000 74,962 74,962 | 74,820 74,682 74,512 | 73,701 73,663 73,663 | 73,589 73,483 73,383 | 72,546 72,508 72,508 | 72,357 72,251 72,151 | M 90 x 6 | 4h 6g 8g | 90,000 89,920 89,920 | 89,625 89,320 88,970 | 86,103 86,023 86,023 | 85,923 85,743 85,573 | 82,639 82,559 82,559 | 82,228 82,048 81,878 |
| M 75 x 3 | 4h 6g 8g | 75,000 74,952 74,952 | 74,764 74,577 74,352 | 73,051 73,003 73,003 | 72,919 72,791 72,668 | 71,319 71,271 71,271 | 71,071 70,943 70,820 | M 95 x 2 | 4h 6g 8g | 95,000 94,962 94,962 | 94,820 94,682 94,512 | 93,701 93,663 93,663 | 93,583 93,473 93,363 | 92,546 92,508 92,508 | 92,351 92,241 92,131 |
| M 75 x 4 | 4h 6g 8g | 75,000 74,940 74,940 | 74,700 74,465 74,190 | 72,402 72,342 72,342 | 72,252 72,106 71,967 | 70,093 70,033 70,033 | 69,789 69,643 69,504 | M 95 x 3 | 4h 6g 8g | 95,000 94,952 94,952 | 94,764 94,577 94,352 | 93,051 93,003 93,003 | 92,911 92,779 92,648 | 91,319 91,271 91,271 | 91,063 90,931 90,800 |
| M 76 x 1,5 | 4h 6g 8g | 76,000 75,968 75,968 | 75,850 75,732 75,593 | 75,026 74,994 74,994 | 74,926 74,834 74,444 | 74,160 74,128 74,128 | 74,002 73,910 73,820 | M 95 x 4 | 4h 6g 8g | 95,000 94,940 94,940 | 94,700 94,465 94,190 | 92,402 92,342 92,342 | 92,242 92,092 91,942 | 90,093 90,033 90,033 | 89,779 89,629 89,479 |
| M 76 x 2 | 4h 6g 8g | 76,000 75,962 75,962 | 75,820 75,682 75,512 | 74,701 74,663 74,663 | 74,589 74,483 74,383 | 73,546 73,508 73,508 | 73,357 73,251 73,151 | M 95 x 6 | 4h 6g 8g | 95,000 94,920 94,920 | 94,625 94,320 93,970 | 91,103 91,023 91,023 | 90,913 90,723 90,548 | 87,639 87,559 87,559 | 87,218 87,028 86,853 |
| M 76 x 3 | 4h 6g 8g | 76,000 75,952 75,952 | 75,764 75,577 75,352 | 74,051 74,003 74,003 | 73,919 73,791 73,668 | 72,319 12,271 71,820 | 72,071 71,943 71,820 | M 100 x 2 | 4h 6g 8g | 100,000 99,962 99,962 | 99,820 99,682 99,512 | 98,701 98,663 98,663 | 98,583 98,472 98,363 | 97,546 97,508 97,508 | 97,351 97,241 97,131 |
| M 76 x 4 | 4h 6g 8g | 76,000 75,940 75,940 | 75,700 75,465 75,190 | 73,402 73,342 73,342 | 73,252 73,106 72,967 | 71,093 71,033 71,033 | 70,789 70,643 70,504 | M 100 x 3 | 4h 6g 8g | 100,000 99,952 99,952 | 99,764 99,577 99,352 | 98,051 98,003 98,003 | 97,911 97,779 97,648 | 96,319 96,271 96,271 | 96,063 95,931 95,800 |
| M 76 x 6 | 4h 6g 8g | 76,000 75,920 75,920 | 76,625 75,320 74,970 | 72,103 72,023 72,023 | 71,923 71,743 71,573 | 68,639 68,559 68,559 | 68,228 68,048 67,878 | M 100 x 4 | 4h 6g 8g | 100,000 99,940 99,940 | 99,700 99,465 99,190 | 97,402 97,342 97,342 | 97,242 97,092 96,942 | 95,093 95,033 95,033 | 94,799 94,629 94,479 |
| M 80 x 1,5 | 4h 6g 8g | 80,000 79,968 79,968 | 79,850 79,732 79,593 | 79,026 78,994 78,994 | 78,926 78,834 78,744 | 78,160 78,128 78,128 | 78,002 77,910 77,820 | M 100 x 6 | 4h 6g 8g | 100,000 99,920 99,920 | 99,625 99,320 98,970 | 96,103 96,023 96,023 | 95,913 95,723 95,548 | 92,639 92,559 92,559 | 92,218 92,028 91,853 |
| M 80 x 2 | 4h 6g 8g | 80,000 79,962 79,962 | 79,620 79,682 79,512 | 78,701 78,663 78,663 | 78,589 78,483 78,383 | 77,546 77,508 77,508 | 77,257 77,251 77,151 | | | | | | | | |