**М Е Ж Г О С У Д А Р С Т В Е Н Н Ы Й  С Т А Н Д А Р Т**

**Основные нормы взаимозаменяемости**

# РЕЗЬБА ТРАПЕЦЕИДАЛЬНАЯ ОДНОЗАХОДНАЯ
## Основные размеры

Basic norms of interchangeability. Trapezoidal single-start screw thread. Basic dimensions

**ГОСТ 24737—81**

**Взамен ГОСТ 24737—73 (в части основных размеров)**

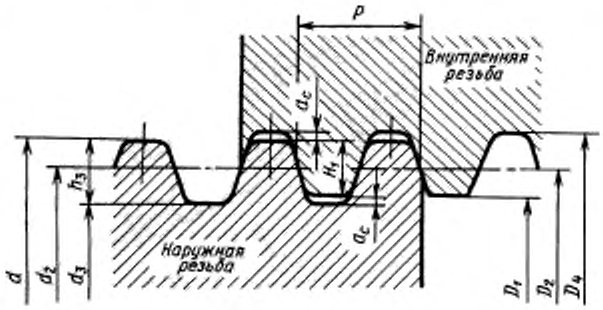
**Постановлением Государственного комитета СССР по стандартам от 30 апреля 1981 г. № 2262 дата введения установлена**

**01.01.82**

1. Настоящий стандарт распространяется на трапецеидальную однозаходную резьбу с профилем по ГОСТ 9484—81, диаметрами и шагами по ГОСТ 24738—81 и устанавливает номинальные диаметры резьбы.

Стандарт полностью соответствует СТ СЭВ 838—78.

2. Номинальные диаметры резьбы должны соответствовать указанным на чертеже и в таблице.




$d$ — наружный диаметр наружной резьбы (винта); $d_2$ — средний диаметр наружной резьбы; $d_3$ — внутренний диаметр наружной резьбы; $D_1$ — внутренний диаметр внутренней резьбы (гайки); $D_2$ — средний диаметр внутренней резьбы; $D_4$ — наружный диаметр внутренней резьбы; $P$ — шаг резьбы; $a_c$ — зазор по вершине резьбы; $h_3$ — высота профиля наружной резьбы; $H_1$ — рабочая высота профиля резьбы.

Значения диаметров вычислены по формулам:

$$D_1 = d - 2H_1 = d - P;$$
$$D_4 = d + 2a_c;$$
$$d_2 = D_2 = d - H_1 = d - 0{,}5P;$$
$$d_3 = d - 2h_3$$

**Издание официальное** ★ **Перепечатка воспрещена**

*Переиздание.*



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мм

| Номинальный диаметр резьбы $d$ | Шаг $P$ | Диаметр резьбы | | | | |
|---|---|---|---|---|---|---|
| | | наружный | | средний | внутренний | |
| | | $d$ | $D_a$ | $d_2 = D_2$ | $d_1$ | $D_1$ |
| 8 | 1,5 | 8,000 | 8,300 | 7,250 | 6,200 | 6,500 |
| | 2 | 8,000 | 8,500 | 7,000 | 5,500 | 6,000 |
| 9 | 1,5 | 9,000 | 9,300 | 8,250 | 7,200 | 7,500 |
| | 2 | 9,000 | 9,500 | 8,000 | 6,500 | 7,000 |
| 10 | 1,5 | 10,000 | 10,300 | 9,250 | 8,200 | 8,500 |
| | 2 | 10,000 | 10,500 | 9,000 | 7,500 | 8,000 |
| 11 | 2 | 11,000 | 11,500 | 10,000 | 8,500 | 9,000 |
| | 3 | 11,000 | 11,500 | 9,500 | 7,500 | 8,000 |
| 12 | 2 | 12,000 | 12,500 | 11,000 | 9,500 | 10,000 |
| | 3 | 12,000 | 12,500 | 10,500 | 8,500 | 9,000 |
| 14 | 2 | 14,000 | 14,500 | 13,000 | 11,500 | 12,000 |
| | 3 | 14,000 | 14,500 | 12,500 | 10,500 | 11,000 |
| 16 | 2 | 16,000 | 16,500 | 15,000 | 13,500 | 14,000 |
| | 4 | 16,000 | 16,500 | 14,000 | 11,500 | 12,000 |
| 18 | 2 | 18,000 | 18,500 | 17,000 | 15,500 | 16,000 |
| | 4 | 18,000 | 18,500 | 16,000 | 13,500 | 14,000 |
| 20 | 2 | 20,000 | 20,500 | 19,000 | 17,500 | 18,000 |
| | 4 | 20,000 | 20,500 | 18,000 | 15,500 | 16,000 |
| 22 | 2 | 22,000 | 22,500 | 21,000 | 19,500 | 20,000 |
| | 3 | 22,000 | 22,500 | 20,500 | 18,500 | 19,000 |
| | 5 | 22,000 | 22,500 | 19,500 | 16,500 | 17,000 |
| | 8 | 22,000 | 23,000 | 18,000 | 13,000 | 14,000 |
| 24 | 2 | 24,000 | 24,500 | 23,000 | 21,500 | 22,000 |
| | 3 | 24,000 | 24,500 | 22,500 | 20,500 | 21,000 |
| | 5 | 24,000 | 24,500 | 21,500 | 18,500 | 19,000 |
| | 8 | 24,000 | 25,000 | 20,000 | 15,000 | 16,000 |
| 26 | 2 | 26,000 | 26,500 | 25,000 | 23,500 | 24,000 |
| | 3 | 26,000 | 26,500 | 24,500 | 22,500 | 23,000 |
| | 5 | 26,000 | 26,500 | 23,500 | 20,500 | 21,000 |
| | 8 | 26,000 | 27,000 | 22,000 | 17,000 | 18,000 |
| 28 | 2 | 28,000 | 28,500 | 27,000 | 25,500 | 26,000 |
| | 3 | 28,000 | 28,500 | 26,500 | 24,500 | 25,000 |
| | 5 | 28,000 | 28,500 | 25,500 | 22,500 | 23,000 |
| | 8 | 28,000 | 29,000 | 24,000 | 19,000 | 20,000 |
| 30 | 3 | 30,000 | 30,500 | 28,500 | 26,500 | 27,000 |
| | 6 | 30,000 | 31,000 | 27,000 | 23,000 | 24,000 |
| | 10 | 30,000 | 31,000 | 25,000 | 19,000 | 20,000 |
| 32 | 3 | 32,000 | 32,500 | 30,500 | 28,500 | 29,000 |
| | 6 | 32,000 | 33,000 | 29,000 | 25,000 | 26,000 |
| | 10 | 32,000 | 33,000 | 27,000 | 21,000 | 22,000 |
| 34 | 3 | 34,000 | 34,500 | 32,500 | 30,500 | 31,000 |
| | 6 | 34,000 | 35,000 | 31,000 | 27,000 | 28,000 |
| | 10 | 34,000 | 35,000 | 29,000 | 23,000 | 24,000 |
| 36 | 3 | 36,000 | 36,500 | 34,500 | 32,500 | 33,000 |
| | 6 | 36,000 | 37,000 | 33,000 | 29,000 | 30,000 |
| | 10 | 36,000 | 37,000 | 31,000 | 25,000 | 26,000 |
| 38 | 3 | 38,000 | 38,500 | 36,500 | 34,500 | 35,000 |
| | 6 | 38,000 | 39,000 | 35,000 | 31,000 | 32,000 |
| | 7 | 38,000 | 39,000 | 34,500 | 30,000 | 31,000 |
| | 10 | 38,000 | 39,000 | 33,000 | 27,000 | 28,000 |

*Продолжение*

мм

| Номинальный диаметр резьбы $d$ | Шаг $P$ | Диаметр резьбы | | | | |
|---|---|---|---|---|---|---|
| | | наружный | | средний | внутренний | |
| | | $d$ | $D_a$ | $d_2 = D_2$ | $d_3$ | $D_1$ |
| 40 | 3 | 40,000 | 40,500 | 38,500 | 36,500 | 37,000 |
| | 6 | 40,000 | 41,000 | 37,000 | 33,000 | 34,000 |
| | 7 | 40,000 | 41,000 | 36,500 | 32,000 | 33,000 |
| | 10 | 40,000 | 41,000 | 35,000 | 29,000 | 30,000 |
| 42 | 3 | 42,000 | 42,500 | 40,500 | 38,500 | 39,000 |
| | 6 | 42,000 | 43,000 | 39,000 | 35,000 | 36,000 |
| | 7 | 42,000 | 43,000 | 38,500 | 34,000 | 35,000 |
| | 10 | 42,000 | 43,000 | 37,000 | 31,000 | 32,000 |
| 44 | 3 | 44,000 | 44,500 | 42,500 | 40,500 | 41,000 |
| | 7 | 44,000 | 45,000 | 40,500 | 36,000 | 37,000 |
| | 8 | 44,000 | 45,000 | 40,000 | 35,000 | 36,000 |
| | 12 | 44,000 | 45,000 | 38,000 | 31,000 | 32,000 |
| 46 | 3 | 46,000 | 46,500 | 44,500 | 42,500 | 43,000 |
| | 8 | 46,000 | 47,000 | 42,000 | 37,000 | 38,000 |
| | 12 | 46,000 | 47,000 | 40,000 | 33,000 | 34,000 |
| 48 | 3 | 48,000 | 48,500 | 46,500 | 44,500 | 45,000 |
| | 8 | 48,000 | 49,000 | 44,000 | 39,000 | 40,000 |
| | 12 | 48,000 | 49,000 | 42,000 | 35,000 | 36,000 |
| 50 | 3 | 50,000 | 50,500 | 48,500 | 46,500 | 47,000 |
| | 8 | 50,000 | 51,000 | 46,000 | 41,000 | 42,000 |
| | 12 | 50,000 | 51,000 | 44,000 | 37,000 | 38,000 |
| 52 | 3 | 52,000 | 52,500 | 50,500 | 48,500 | 49,000 |
| | 8 | 52,000 | 53,000 | 48,000 | 43,000 | 44,000 |
| | 12 | 52,000 | 53,000 | 46,000 | 39,000 | 40,000 |
| 55 | 3 | 55,000 | 55,500 | 53,500 | 51,500 | 52,000 |
| | 8 | 55,000 | 56,000 | 51,000 | 46,000 | 47,000 |
| | 9 | 55,000 | 56,000 | 50,500 | 45,000 | 46,000 |
| | 12 | 55,000 | 56,000 | 49,000 | 42,000 | 43,000 |
| | 14 | 55,000 | 57,000 | 48,000 | 39,000 | 41,000 |
| 60 | 3 | 60,000 | 60,500 | 58,500 | 56,500 | 57,000 |
| | 8 | 60,000 | 61,000 | 56,000 | 51,000 | 52,000 |
| | 9 | 60,000 | 61,000 | 55,500 | 50,000 | 51,000 |
| | 12 | 60,000 | 61,000 | 54,000 | 47,000 | 48,000 |
| | 14 | 60,000 | 62,000 | 53,000 | 44,000 | 46,000 |
| 65 | 4 | 65,000 | 65,500 | 63,000 | 60,500 | 61,000 |
| | 10 | 65,000 | 66,000 | 60,000 | 54,000 | 55,000 |
| | 16 | 65,000 | 67,000 | 57,000 | 47,000 | 49,000 |
| 70 | 4 | 70,000 | 70,500 | 68,000 | 65,500 | 66,000 |
| | 10 | 70,000 | 71,000 | 65,000 | 59,000 | 60,000 |
| | 16 | 70,000 | 72,000 | 62,000 | 52,000 | 54,000 |
| 75 | 4 | 75,000 | 75,500 | 73,000 | 70,500 | 71,000 |
| | 10 | 75,000 | 76,000 | 70,000 | 64,000 | 65,000 |
| | 16 | 75,000 | 77,000 | 67,000 | 57,000 | 59,000 |
| 80 | 4 | 80,000 | 80,500 | 78,000 | 75,500 | 76,000 |
| | 10 | 80,000 | 81,000 | 75,000 | 69,000 | 70,000 |
| | 16 | 80,000 | 82,000 | 72,000 | 62,000 | 64,000 |
| 85 | 4 | 85,000 | 85,500 | 83,000 | 80,500 | 81,000 |
| | 5 | 85,000 | 85,500 | 82,500 | 79,500 | 80,000 |
| | 12 | 85,000 | 86,000 | 79,000 | 72,000 | 73,000 |
| | 18 | 85,000 | 87,000 | 76,000 | 65,000 | 67,000 |
| | 20 | 85,000 | 87,000 | 75,000 | 63,000 | 65,000 |

*Продолжение*

мм

| Номинальный диаметр резьбы $d$ | Шаг $P$ | Диаметр резьбы | | | | |
|---|---|---|---|---|---|---|
| | | наружный | | средний | внутренний | |
| | | $d$ | $D_4$ | $d_2 = D_2$ | $d_1$ | $D_1$ |
| 90 | 4 | 90,000 | 90,500 | 88,000 | 85,500 | 86,000 |
| | 5 | 90,000 | 90,500 | 87,500 | 84,500 | 85,000 |
| | 12 | 90,000 | 91,000 | 84,000 | 77,000 | 78,000 |
| | 18 | 90,000 | 92,000 | 81,000 | 70,000 | 72,000 |
| | 20 | 90,000 | 92,000 | 80,000 | 68,000 | 70,000 |
| 95 | 4 | 95,000 | 95,500 | 93,000 | 90,500 | 91,000 |
| | 5 | 95,000 | 95,500 | 92,500 | 89,500 | 90,000 |
| | 12 | 95,000 | 96,000 | 89,000 | 82,000 | 83,000 |
| | 18 | 95,000 | 97,000 | 86,000 | 75,000 | 77,000 |
| | 20 | 95,000 | 97,000 | 85,000 | 73,000 | 75,000 |
| 100 | 4 | 100,000 | 100,500 | 98,000 | 95,500 | 96,000 |
| | 5 | 100,000 | 100,500 | 97,500 | 94,500 | 95,000 |
| | 12 | 100,000 | 101,000 | 94,000 | 87,000 | 88,000 |
| | 20 | 100,000 | 102,000 | 90,000 | 78,000 | 80,000 |
| 110 | 4 | 110,000 | 110,500 | 108,000 | 105,500 | 106,000 |
| | 5 | 110,000 | 110,500 | 107,500 | 104,500 | 105,000 |
| | 12 | 110,000 | 111,000 | 104,000 | 97,000 | 98,000 |
| | 20 | 110,000 | 112,000 | 100,000 | 88,000 | 90,000 |
| 120 | 6 | 120,000 | 121,000 | 117,000 | 113,000 | 114,000 |
| | 14 | 120,000 | 122,000 | 113,000 | 104,000 | 106,000 |
| | 16 | 120,000 | 122,000 | 112,000 | 102,000 | 104,000 |
| | 22 | 120,000 | 122,000 | 109,000 | 96,000 | 98,000 |
| | 24 | 120,000 | 122,000 | 108,000 | 94,000 | 96,000 |
| 130 | 6 | 130,000 | 131,000 | 127,000 | 123,000 | 124,000 |
| | 14 | 130,000 | 132,000 | 123,000 | 114,000 | 116,000 |
| | 16 | 130,000 | 132,000 | 122,000 | 112,000 | 114,000 |
| | 22 | 130,000 | 132,000 | 119,000 | 106,000 | 108,000 |
| | 24 | 130,000 | 132,000 | 118,000 | 104,000 | 106,000 |
| 140 | 6 | 140,000 | 141,000 | 137,000 | 133,000 | 134,000 |
| | 14 | 140,000 | 142,000 | 133,000 | 124,000 | 126,000 |
| | 16 | 140,000 | 142,000 | 132,000 | 122,000 | 124,000 |
| | 24 | 140,000 | 142,000 | 128,000 | 114,000 | 116,000 |
| 150 | 6 | 150,000 | 151,000 | 147,000 | 143,000 | 144,000 |
| | 16 | 150,000 | 152,000 | 142,000 | 132,000 | 134,000 |
| | 24 | 150,000 | 152,000 | 138,000 | 124,000 | 126,000 |
| 160 | 6 | 160,000 | 161,000 | 157,000 | 153,000 | 154,000 |
| | 8 | 160,000 | 161,000 | 156,000 | 151,000 | 152,000 |
| | 16 | 160,000 | 162,000 | 152,000 | 142,000 | 144,000 |
| | 24 | 160,000 | 162,000 | 148,000 | 134,000 | 136,000 |
| | 28 | 160,000 | 162,000 | 146,000 | 130,000 | 132,000 |
| 170 | 6 | 170,000 | 171,000 | 167,000 | 163,000 | 164,000 |
| | 8 | 170,000 | 171,000 | 166,000 | 161,000 | 162,000 |
| | 16 | 170,000 | 172,000 | 162,000 | 152,000 | 154,000 |
| | 24 | 170,000 | 172,000 | 158,000 | 144,000 | 146,000 |
| | 28 | 170,000 | 172,000 | 156,000 | 140,000 | 142,000 |
| 180 | 8 | 180,000 | 181,000 | 176,000 | 171,000 | 172,000 |
| | 18 | 180,000 | 182,000 | 171,000 | 160,000 | 162,000 |
| | 20 | 180,000 | 182,000 | 170,000 | 158,000 | 160,000 |
| | 28 | 180,000 | 182,000 | 166,000 | 150,000 | 152,000 |
| | 32 | 180,000 | 182,000 | 164,000 | 146,000 | 148,000 |

*Продолжение*

мм

| Номинальный диаметр резьбы $d$ | Шаг $P$ | Диаметр резьбы | | | | |
|---|---|---|---|---|---|---|
| | | наружный | | средний | внутренний | |
| | | $d$ | $D_a$ | $d_2 = D_2$ | $d_3$ | $D_1$ |
| 190 | 8 | 190,000 | 191,000 | 186,000 | 181,000 | 182,000 |
| | 18 | 190,000 | 192,000 | 181,000 | 170,000 | 172,000 |
| | 20 | 190,000 | 192,000 | 180,000 | 168,000 | 170,000 |
| | 32 | 190,000 | 192,000 | 174,000 | 156,000 | 158,000 |
| 200 | 8 | 200,000 | 201,000 | 196,000 | 191,000 | 192,000 |
| | 10 | 200,000 | 201,000 | 195,000 | 189,000 | 190,000 |
| | 18 | 200,000 | 202,000 | 191,000 | 180,000 | 182,000 |
| | 20 | 200,000 | 202,000 | 190,000 | 178,000 | 180,000 |
| | 32 | 200,000 | 202,000 | 184,000 | 166,000 | 168,000 |
| 210 | 8 | 210,000 | 211,000 | 206,000 | 201,000 | 202,000 |
| | 10 | 210,000 | 211,000 | 205,000 | 199,000 | 200,000 |
| | 20 | 210,000 | 212,000 | 200,000 | 180,000 | 190,000 |
| | 32 | 210,000 | 212,000 | 194,000 | 176,000 | 178,000 |
| | 36 | 210,000 | 212,000 | 192,000 | 172,000 | 174,000 |
| 220 | 8 | 220,000 | 221,000 | 216,000 | 211,000 | 212,000 |
| | 10 | 220,000 | 221,000 | 215,000 | 209,000 | 210,000 |
| | 20 | 220,000 | 222,000 | 210,000 | 198,000 | 200,000 |
| | 32 | 220,000 | 222,000 | 204,000 | 186,000 | 188,000 |
| | 36 | 220,000 | 222,000 | 202,000 | 182,000 | 184,000 |
| 230 | 8 | 230,000 | 231,000 | 226,000 | 221,000 | 222,000 |
| | 20 | 230,000 | 232,000 | 220,000 | 208,000 | 210,000 |
| | 36 | 230,000 | 232,000 | 212,000 | 192,000 | 194,000 |
| 240 | 8 | 240,000 | 241,000 | 236,000 | 231,000 | 232,000 |
| | 12 | 240,000 | 241,000 | 234,000 | 227,000 | 228,000 |
| | 22 | 240,000 | 242,000 | 229,000 | 216,000 | 218,000 |
| | 24 | 240,000 | 242,000 | 228,000 | 214,000 | 216,000 |
| | 36 | 240,000 | 242,000 | 222,000 | 202,000 | 204,000 |
| | 40 | 240,000 | 242,000 | 220,000 | 198,000 | 200,000 |
| 250 | 12 | 250,000 | 251,000 | 244,000 | 237,000 | 238,000 |
| | 22 | 250,000 | 252,000 | 239,000 | 226,000 | 228,000 |
| | 24 | 250,000 | 252,000 | 238,000 | 224,000 | 226,000 |
| | 40 | 250,000 | 252,000 | 230,000 | 208,000 | 210,000 |
| 260 | 12 | 260,000 | 261,000 | 254,000 | 247,000 | 248,000 |
| | 22 | 260,000 | 262,000 | 249,000 | 236,000 | 238,000 |
| | 24 | 260,000 | 262,000 | 248,000 | 234,000 | 236,000 |
| | 40 | 260,000 | 262,000 | 240,000 | 218,000 | 220,000 |
| 270 | 12 | 270,000 | 271,000 | 264,000 | 257,000 | 258,000 |
| | 24 | 270,000 | 272,000 | 258,000 | 244,000 | 246,000 |
| | 40 | 270,000 | 272,000 | 250,000 | 228,000 | 230,000 |
| 280 | 12 | 280,000 | 281,000 | 274,000 | 267,000 | 268,000 |
| | 24 | 280,000 | 282,000 | 268,000 | 254,000 | 256,000 |
| | 40 | 280,000 | 282,000 | 260,000 | 238,000 | 240,000 |
| 290 | 12 | 290,000 | 291,000 | 284,000 | 277,000 | 278,000 |
| | 24 | 290,000 | 292,000 | 278,000 | 264,000 | 266,000 |
| | 44 | 290,000 | 292,000 | 268,000 | 244,000 | 246,000 |
| 300 | 12 | 300,000 | 301,000 | 294,000 | 287,000 | 288,000 |
| | 24 | 300,000 | 302,000 | 288,000 | 274,000 | 276,000 |
| | 40 | 300,000 | 302,000 | 280,000 | 258,000 | 260,000 |
| | 44 | 300,000 | 302,000 | 278,000 | 254,000 | 256,000 |
| 320 | 12 | 320,000 | 321,000 | 314,000 | 307,000 | 308,000 |
| | 48 | 320,000 | 322,000 | 296,000 | 270,000 | 272,000 |

*Продолжение*

мм

| Номинальный диаметр резьбы $d$ | Шаг $P$ | Диаметр резьбы | | | | |
|---|---|---|---|---|---|---|
| | | наружный | | средний | внутренний | |
| | | $d$ | $D_a$ | $d_2 = D_2$ | $d_1$ | $D_1$ |
| 340 | 12 | 340,000 | 341,000 | 334,000 | 327,000 | 328,000 |
| | 48 | 340,000 | 342,000 | 316,000 | 290,000 | 292,000 |
| 360 | 12 | 360,000 | 361,000 | 354,000 | 347,000 | 348,000 |
| | 48 | 360,000 | 362,000 | 336,000 | 310,000 | 312,000 |
| 380 | 12 | 380,000 | 381,000 | 374,000 | 367,000 | 368,000 |
| | 48 | 380,000 | 382,000 | 356,000 | 330,000 | 332,000 |
| 400 | 12 | 400,000 | 401,000 | 394,000 | 387,000 | 388,000 |
| | 48 | 400,000 | 402,000 | 376,000 | 350,000 | 352,000 |
| 420 | 16 | 420,000 | 422,000 | 412,000 | 402,000 | 404,000 |
| 440 | 16 | 440,000 | 442,000 | 432,000 | 422,000 | 424,000 |
| 460 | 16 | 460,000 | 462,000 | 452,000 | 442,000 | 444,000 |
| 480 | 16 | 480,000 | 482,000 | 472,000 | 462,000 | 464,000 |
| 500 | 16 | 500,000 | 502,000 | 492,000 | 482,000 | 484,000 |
| 520 | 20 | 520,000 | 522,000 | 510,000 | 498,000 | 500,000 |
| 540 | 20 | 540,000 | 542,000 | 530,000 | 518,000 | 520,000 |
| 560 | 20 | 560,000 | 562,000 | 550,000 | 538,000 | 540,000 |
| 580 | 20 | 580,000 | 582,000 | 570,000 | 558,000 | 560,000 |
| 600 | 24 | 600,000 | 602,000 | 588,000 | 574,000 | 576,000 |
| 620 | 24 | 620,000 | 622,000 | 608,000 | 594,000 | 596,000 |
| 640 | 24 | 640,000 | 642,000 | 628,000 | 614,000 | 616,000 |

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