

### Calculated Design / Burst Pressures for Tube (bar)

| Tube OD<br>(mm) | Tube ID<br>(mm) | Tube Wall<br>(mm) | STAUFF Nominal pressure<br>(bar) |              | Calculated Design Pressure<br>(bar) in accordance with DIN 2413 -<br>Load Case I<br>(predominantly static loads, up to +120 °C) |                  |                    | Calculated Design Pressure<br>(bar) in accordance with DIN 2413 -<br>Load Case III<br>(dynamic / pulsating loads, up to +120 °C) |                  |                    | Calculated Burst Pressure<br>(bar) in accordance with ISO 10763 |                  |                    |
|-----------------|-----------------|-------------------|----------------------------------|--------------|---|------------------|--------------------|--|------------------|--------------------|---|------------------|--------------------|
|                 |                 |                   | Light Series                     | Heavy Series | Material<br>E235+N  | Material<br>E355 | Material<br>1.4571 | Material<br>E235+N   | Material<br>E355 | Material<br>1.4571 | Material<br>E235+N  | Material<br>E355 | Material<br>1.4571 |
| D1              | D2              | S                 |                                  |              |   |                  |                    |  |                  |                    |   |                  |                    |
| 6               | 4,5             | 0,75              | 500                              | 800          | 338   | 491              | 368                | 303  | 310              | 256                | 1116  | 1525             | 1346               |
| 6               | 4               | 1                 | 500                              | 800          | 450   | 655              | 490                | 391  | 400              | 330                | 1573  | 2149             | 1898               |
| 6               | 3               | 1,5               | 500                              | 800          | 675   | 983              | 735                | 551  | 563              | 465                | 2689  | 3674             | 3244               |
| 6*              | 2               | 2                 | 500                              | 800          | 900   | 1310             | 980                | 692  | 708              | 585                | 4263  | 5823             | 5142               |
| 6*              | 1,5             | 2,25              | 500                              | 800          | 1013  | 1474             | 1103               | 757  | 774              | 639                | 5379  | 7347             | 6488               |
| 8               | 6               | 1                 | 500                              | 800          | 338   | 491              | 368                | 303  | 310              | 256                | 1116  | 1525             | 1346               |
| 8               | 5               | 1,5               | 500                              | 800          | 506   | 737              | 551                | 433  | 443              | 366                | 1824  | 2491             | 2200               |
| 8               | 4               | 2                 | 500                              | 800          | 675   | 983              | 735                | 551  | 563              | 465                | 2689  | 3674             | 3244               |
| 8*              | 3               | 2,5               | 500                              | 800          | 844   | 1228             | 919                | 659  | 673              | 556                | 3806  | 5198             | 4590               |
| 10              | 8               | 1                 | 500                              | 800          | 270   | 393              | 294                | 248  | 253              | 209                | 866   | 1183             | 1044               |
| 10              | 7               | 1,5               | 500                              | 800          | 405   | 590              | 441                | 357  | 365              | 301                | 1384  | 1890             | 1669               |
| 10              | 6               | 2                 | 500                              | 800          | 540   | 786              | 588                | 458  | 468              | 386                | 1982  | 2707             | 2391               |
| 10              | 5               | 2,5               | 500                              | 800          | 675   | 983              | 735                | 551  | 563              | 465                | 2689  | 3674             | 3244               |
| 10*             | 4               | 3                 | 500                              | 800          | 810   | 1179             | 882                | 638  | 652              | 539                | 3555  | 4856             | 4288               |
| 12              | 10              | 1                 | 400                              | 630          | 225   | 328              | 245                | 209  | 214              | 177                | 707   | 966              | 853                |
| 12              | 9               | 1,5               | 400                              | 630          | 338   | 491              | 368                | 303  | 310              | 256                | 1116  | 1525             | 1346               |
| 12              | 8               | 2                 | 400                              | 630          | 450   | 655              | 490                | 391  | 400              | 330                | 1573  | 2149             | 1898               |
| 12              | 7               | 2,5               | 400                              | 630          | 563   | 819              | 613                | 474  | 484              | 400                | 2091  | 2857             | 2523               |
| 12              | 6               | 3                 | 400                              | 630          | 675   | 983              | 735                | 551  | 563              | 465                | 2689  | 3674             | 3244               |
| 12*             | 5               | 3,5               | 400                              | 630          | 823   | 1180             | 858                | 624  | 638              | 527                | 3397  | 4640             | 4097               |
| 12*             | 4               | 4                 | 400                              | 630          | 940   | 1348             | 980                | 692  | 708              | 585                | 4263  | 5823             | 5142               |
| 14              | 12              | 1                 |                                  | 630          | 193   | 281              | 210                | 181  | 185              | 153                | 598   | 817              | 721                |
| 14              | 11              | 1,5               |                                  | 630          | 289   | 421              | 315                | 264  | 270              | 223                | 936   | 1278             | 1129               |
| 14              | 10              | 2                 |                                  | 630          | 386   | 561              | 420                | 342  | 349              | 289                | 1306  | 1783             | 1575               |
| 14              | 9               | 2,5               |                                  | 630          | 482   | 702              | 525                | 415  | 425              | 351                | 1714  | 2342             | 2068               |
| 14              | 8               | 3                 |                                  | 630          | 579   | 842              | 630                | 485  | 496              | 410                | 2171  | 2966             | 2619               |
| 14              | 7               | 3,5               |                                  | 630          | 705   | 1011             | 735                | 551  | 563              | 465                | 2689  | 3674             | 3244               |
| 15              | 13              | 1                 | 400                              |              | 180   | 262              | 196                | 170  | 174              | 143                | 555   | 758              | 670                |
| 15              | 12              | 1,5               | 400                              |              | 270   | 393              | 294                | 248  | 253              | 209                | 866   | 1183             | 1044               |
| 15              | 11              | 2                 | 400                              |              | 360   | 524              | 392                | 321  | 329              | 271                | 1203  | 1644             | 1452               |
| 15              | 10              | 2,5               | 400                              |              | 450   | 655              | 490                | 391  | 400              | 330                | 1573  | 2149             | 1898               |
| 15              | 9               | 3                 | 400                              |              | 540   | 786              | 588                | 458  | 468              | 386                | 1982  | 2707             | 2391               |
| 16              | 14              | 1                 |                                  | 630          | 169   | 246              | 184                | 160  | 163              | 135                | 518   | 708              | 625                |
| 16              | 13              | 1,5               |                                  | 630          | 253   | 368              | 276                | 233  | 239              | 197                | 806   | 1100             | 972                |
| 16              | 12              | 2                 |                                  | 630          | 338   | 491              | 368                | 303  | 310              | 256                | 1116  | 1525             | 1346               |
| 16              | 11              | 2,5               |                                  | 630          | 422   | 614              | 459                | 370  | 378              | 312                | 1454  | 1986             | 1754               |
| 16              | 10              | 3                 |                                  | 630          | 506   | 737              | 551                | 433  | 443              | 366                | 1824  | 2491             | 2200               |
| 16              | 8               | 4                 |                                  | 630          | 705   | 1011             | 735                | 551  | 563              | 465                | 2689  | 3674             | 3244               |
| 18              | 16              | 1                 | 400                              |              | 150   | 218              | 163                | 143  | 146              | 121                | 457   | 624              | 551                |
| 18              | 15              | 1,5               | 400                              |              | 225   | 328              | 245                | 209  | 214              | 177                | 707   | 966              | 853                |
| 18              | 14              | 2                 | 400                              |              | 300   | 437              | 327                | 273  | 279              | 230                | 975   | 1332             | 1176               |
| 18              | 13              | 2,5               | 400                              |              | 375   | 546              | 408                | 333  | 341              | 281                | 1263  | 1725             | 1523               |
| 18              | 12              | 3                 | 400                              |              | 450   | 655              | 490                | 391  | 400              | 330                | 1573  | 2149             | 1898               |
| 18              | 10              | 4                 | 400                              |              | 627   | 899              | 653                | 500  | 511              | 422                | 2281  | 3115             | 2751               |
| 20              | 17              | 1,5               |                                  | 420          | 203   | 295              | 221                | 190  | 194              | 160                | 631   | 861              | 761                |
| 20              | 16              | 2                 |                                  | 420          | 270   | 393              | 294                | 248  | 253              | 209                | 866   | 1183             | 1044               |
| 20              | 15              | 2,5               |                                  | 420          | 338   | 491              | 368                | 303  | 310              | 256                | 1116  | 1525             | 1346               |
| 20              | 14              | 3                 |                                  | 420          | 405   | 590              | 441                | 357  | 365              | 301                | 1384  | 1890             | 1669               |
| 20              | 13              | 3,5               |                                  | 420          | 494   | 708              | 515                | 408  | 417              | 345                | 1671  | 2283             | 2016               |
| 20              | 12              | 4                 |                                  | 420          | 564   | 809              | 588                | 458  | 468              | 386                | 1982  | 2707             | 2391               |
| 20              | 10              | 5                 |                                  | 420          | 705   | 1011             | 735                | 551  | 563              | 465                | 2689  | 3674             | 3244               |

Load case I according to DIN 2413 describes predominantly static loads at temperatures not exceeding +120 °C.  
 Load case III according to DIN 2413 describes dynamic / pulsating loads at temperatures not exceeding +120 °C.

For some sizes of thin-walled steel tube, support sleeves are highly recommended and in some case generally required.  
 Please see page G11 for selection charts and detailed assembly instructions.

| Tube OD<br>(mm) | Tube ID<br>(mm) | Tube Wall<br>(mm) | STAUFF Nominal pressure<br>(bar) | Calculated Design Pressure<br>(bar) in accordance with DIN 2413 -<br>Load Case I<br>(predominantly static loads, up to +120 °C) |              |                    | Calculated Design Pressure<br>(bar) in accordance with DIN 2413 -<br>Load Case III<br>(dynamic / pulsating loads, up to +120 °C) |                    |                    | Calculated Burst Pressure<br>(bar) in accordance with ISO 10763 |                    |                    |                  |
|-----------------|-----------------|-------------------|----------------------------------|---|--------------|--------------------|--|--------------------|--------------------|---|--------------------|--------------------|------------------|
|                 |                 |                   |                                  | Light Series  | Heavy Series | Material<br>E235+N | Material<br>E355   | Material<br>1.4571 | Material<br>E235+N | Material<br>E355  | Material<br>1.4571 | Material<br>E235+N | Material<br>E355 |
| D1              | D2              | S                 |                                  |   |              |                    |  |                    |                    |   |                    |                    |                  |
| 22              | 20              | 1                 | 250                              |   | 123          | 179                | 134  | 118                | 121                | 100   | 370                | 505                | 446              |
| 22              | 19              | 1,5               | 250                              |   | 184          | 268                | 200  | 173                | 177                | 146   | 569                | 777                | 686              |
| 22              | 18              | 2                 | 250                              |   | 245          | 357                | 267  | 227                | 232                | 192   | 779                | 1064               | 939              |
| 22              | 17              | 2,5               | 250                              |   | 307          | 447                | 334  | 278                | 285                | 235   | 1000               | 1366               | 1207             |
| 22              | 16              | 3                 | 250                              |   | 368          | 536                | 401  | 328                | 335                | 277   | 1236               | 1688               | 1490             |
| 22              | 15              | 3,5               | 250                              |   | 449          | 643                | 468  | 376                | 384                | 317   | 1486               | 2030               | 1792             |
| 22              | 14              | 4                 | 250                              |   | 513          | 735                | 535  | 422                | 431                | 356   | 1754               | 2396               | 2115             |
| 25              | 22              | 1,5               |                                  | 420   | 162          | 236                | 176  | 154                | 157                | 130   | 496                | 678                | 598              |
| 25              | 21              | 2                 |                                  | 420   | 216          | 314                | 235  | 201                | 206                | 170   | 676                | 924                | 816              |
| 25              | 20              | 2,5               |                                  | 420   | 270          | 393                | 294  | 248                | 253                | 209   | 866                | 1183               | 1044             |
| 25              | 19              | 3                 |                                  | 420   | 324          | 472                | 353  | 292                | 299                | 247   | 1065               | 1455               | 1284             |
| 25              | 18              | 3,5               |                                  | 420   | 395          | 566                | 412  | 336                | 343                | 283   | 1275               | 1741               | 1537             |
| 25              | 17              | 4                 |                                  | 420   | 451          | 647                | 470  | 378                | 386                | 319   | 1496               | 2044               | 1805             |
| 25              | 16              | 4,5               |                                  | 420   | 508          | 728                | 529  | 418                | 428                | 353   | 1732               | 2365               | 2089             |
| 25              | 15              | 5                 |                                  | 420   | 564          | 809                | 588  | 458                | 468                | 386   | 1982               | 2707               | 2391             |
| 28              | 25              | 1,5               | 250                              |   | 145          | 211                | 158  | 138                | 141                | 117   | 440                | 601                | 530              |
| 28              | 24              | 2                 | 250                              |   | 193          | 281                | 210  | 181                | 185                | 153   | 598                | 817                | 721              |
| 28              | 23              | 2,5               | 250                              |   | 241          | 351                | 263  | 223                | 228                | 188   | 763                | 1043               | 921              |
| 28              | 22              | 3                 | 250                              |   | 289          | 421                | 315  | 264                | 270                | 223   | 936                | 1278               | 1129             |
| 28              | 21              | 3,5               | 250                              |   | 353          | 506                | 368  | 303                | 310                | 256   | 1116               | 1525               | 1346             |
| 28              | 20              | 4                 | 250                              |   | 403          | 578                | 420  | 342                | 349                | 289   | 1306               | 1783               | 1575             |
| 30              | 26              | 2                 |                                  | 420   | 180          | 262                | 196  | 170                | 174                | 143   | 555                | 758                | 670              |
| 30              | 25              | 2,5               |                                  | 420   | 225          | 328                | 245  | 209                | 214                | 177   | 707                | 966                | 853              |
| 30              | 24              | 3                 |                                  | 420   | 270          | 393                | 294  | 248                | 253                | 209   | 866                | 1183               | 1044             |
| 30              | 23              | 3,5               |                                  | 420   | 329          | 472                | 343  | 285                | 291                | 241   | 1031               | 1408               | 1243             |
| 30              | 22              | 4                 |                                  | 420   | 376          | 539                | 392  | 321                | 329                | 271   | 1203               | 1644               | 1452             |
| 30              | 20              | 5                 |                                  | 420   | 470          | 674                | 490  | 391                | 400                | 330   | 1573               | 2149               | 1898             |
| 30              | 18              | 6                 |                                  | 420   | 564          | 809                | 588  | 458                | 468                | 386   | 1982               | 2707               | 2391             |
| 35              | 32              | 1,5               | 250                              |   | 121          | 173                | 126  | 111                | 114                | 94  | 348                | 475                | 419              |
| 35              | 31              | 2                 | 250                              |   | 161          | 231                | 168  | 147                | 150                | 124   | 471                | 643                | 568              |
| 35              | 30              | 2,5               | 250                              |   | 201          | 289                | 210  | 181                | 185                | 153   | 598                | 817                | 721              |
| 35              | 29              | 3                 | 250                              |   | 242          | 347                | 252  | 215                | 220                | 181   | 730                | 997                | 880              |
| 35              | 27              | 4                 | 250                              |   | 322          | 462                | 336  | 280                | 286                | 236   | 1007               | 1375               | 1215             |
| 35              | 25              | 5                 | 250                              |   | 403          | 578                | 420  | 342                | 349                | 289   | 1306               | 1783               | 1575             |
| 38              | 34              | 2                 |                                  | 420   | 148          | 213                | 155  | 136                | 139                | 115   | 432                | 589                | 521              |
| 38              | 33              | 2,5               |                                  | 420   | 186          | 266                | 193  | 168                | 171                | 142   | 547                | 748                | 660              |
| 38              | 32              | 3                 |                                  | 420   | 223          | 319                | 232  | 199                | 203                | 168   | 667                | 911                | 804              |
| 38              | 30              | 4                 |                                  | 420   | 297          | 426                | 309  | 260                | 265                | 219   | 917                | 1253               | 1106             |
| 38              | 28              | 5                 |                                  | 420   | 371          | 532                | 387  | 318                | 325                | 268   | 1185               | 1619               | 1429             |
| 38              | 26              | 6                 |                                  | 420   | 445          | 639                | 464  | 373                | 382                | 315   | 1472               | 2011               | 1776             |
| 38              | 24              | 7                 |                                  | 420   | 519          | 745                | 542  | 427                | 436                | 360   | 1783               | 2436               | 2151             |
| 38              | 22              | 8                 |                                  | 420   | 594          | 851                | 619  | 478                | 488                | 404   | 2121               | 2897               | 2558             |
| 42              | 39              | 1,5               | 250                              |   | 101          | 144                | 105  | 93                 | 96                 | 79  | 288                | 393                | 347              |
| 42              | 38              | 2                 | 250                              |   | 134          | 193                | 140  | 123                | 126                | 104   | 388                | 530                | 468              |
| 42              | 37              | 2,5               | 250                              |   | 168          | 241                | 175  | 153                | 156                | 129   | 492                | 672                | 593              |
| 42              | 36              | 3                 | 250                              |   | 201          | 289                | 210  | 181                | 185                | 153   | 598                | 817                | 721              |
| 42              | 34              | 4                 | 250                              |   | 269          | 385                | 280  | 237                | 242                | 200   | 820                | 1120               | 989              |
| 42              | 32              | 5                 | 250                              |   | 336          | 481                | 350  | 290                | 297                | 245   |                    | 1441               | 1273             |

All figures are based on calculations carried out in accordance with DIN 2413 and ISO 10763.

They are intended to assist the user in the pre-selection of the correct tube only, and do not discharge the obligation to carry out own calculations in consideration of the actual conditions of use.

DIN 2413 does not apply to tube sizes marked by \* (where D1/D2 > 2).