

# Nord-Lock 254 SMO® washers

EN 1.4547 or equivalent, surface hardened

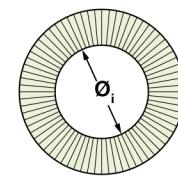
254 SMO® is a high performance austenitic stainless steel (according to EN 1.4547) with greater mechanical strength and resistance against corrosion than most austenitic stainless steel grades. The material is resilient against pitting and crevice corrosion due to high contents of chromium, nickel, molybdenum and nitrogen. Nord-Lock 254 SMO® washers are specially designed for chloride rich processes and salt water solutions / atmospheres, i.e. environments where stainless steel washers made of EN 1.4404 are not suitable.

## Dimension chart

| Washer size    | Bolt size |        | $\phi_i$<br>[inch] | $\phi_o$<br>[inch] | Thickness T<br>[inch] | Min.<br>package<br>[pairs] | Approx weight<br>lbs / 100 pairs |
|----------------|-----------|--------|--------------------|--------------------|-----------------------|----------------------------|----------------------------------|
|                | UNC       | Metric |                    |                    |                       |                            |                                  |
| NL3ss-254      | #5        | M3     | 0.13               | 0.28               | 0.09                  | 200                        | 0.09                             |
| NL3.5ss-254    | #6        | M3.5   | 0.15               | 0.30               | 0.09                  | 200                        | 0.09                             |
| NL3.5spss-254  | #6        | M3.5   | 0.15               | 0.35               | 0.09                  | 200                        | 0.15                             |
| NL4ss-254      | #8        | M4     | 0.17               | 0.30               | 0.09                  | 200                        | 0.09                             |
| NL4spss-254    | #8        | M4     | 0.17               | 0.35               | 0.09                  | 200                        | 0.15                             |
| NL5ss-254      | #10       | M5     | 0.21               | 0.35               | 0.09                  | 200                        | 0.13                             |
| NL5spss-254    | #10       | M5     | 0.21               | 0.43               | 0.09                  | 200                        | 0.24                             |
| NL6ss-254      |           | M6     | 0.26               | 0.43               | 0.09                  | 200                        | 0.20                             |
| NL6spss-254    |           | M6     | 0.26               | 0.53               | 0.08                  | 200                        | 0.35                             |
| NL1/4"ss-254   | 1/4"      |        | 0.28               | 0.45               | 0.09                  | 200                        | 0.20                             |
| NL1/4"spss-254 | 1/4"      |        | 0.28               | 0.53               | 0.09                  | 200                        | 0.33                             |
| NL8ss-254      | 5/16"     | M8     | 0.34               | 0.53               | 0.08                  | 200                        | 0.26                             |
| NL8spss-254    | 5/16"     | M8     | 0.34               | 0.65               | 0.08                  | 200                        | 0.48                             |
| NL3/8"ss-254   | 3/8"      |        | 0.41               | 0.65               | 0.08                  | 200                        | 0.42                             |
| NL3/8"spss-254 | 3/8"      |        | 0.41               | 0.83               | 0.09                  | 200                        | 0.84                             |
| NL10ss-254     |           | M10    | 0.42               | 0.65               | 0.08                  | 200                        | 0.40                             |
| NL10spss-254   |           | M10    | 0.42               | 0.83               | 0.08                  | 200                        | 0.82                             |
| NL11ss-254     | 7/16"     | M11    | 0.45               | 0.73               | 0.09                  | 200                        | 0.57                             |
| NL12zs-254     |           | M12    | 0.51               | 0.77               | 0.08                  | 200                        | 0.51                             |
| NL12spss-254   |           | M12    | 0.51               | 1.00               | 0.13                  | 100                        | 1.83                             |
| NL1/2"ss-254   | 1/2"      |        | 0.53               | 0.77               | 0.08                  | 200                        | 0.53                             |
| NL1/2"spss-254 | 1/2"      |        | 0.53               | 1.00               | 0.12                  | 100                        | 1.76                             |
| NL14ss-254     | 9/16"     | M14    | 0.60               | 0.91               | 0.12                  | 100                        | 1.08                             |
| NL14spss-254   | 9/16"     | M14    | 0.60               | 1.21               | 0.12                  | 100                        | 2.49                             |
| NL16ss-254     | 5/8"      | M16    | 0.67               | 1.00               | 0.12                  | 100                        | 1.30                             |
| NL16spss-254   | 5/8"      | M16    | 0.67               | 1.21               | 0.13                  | 100                        | 2.49                             |
| NL18ss-254     |           | M18    | 0.77               | 1.14               | 0.13                  | 100                        | 1.76                             |
| NL18spss-254   |           | M18    | 0.77               | 1.36               | 0.13                  | 100                        | 3.44                             |
| NL3/4"ss-254   | 3/4"      |        | 0.79               | 1.21               | 0.13                  | 100                        | 2.12                             |
| NL3/4"spss-254 | 3/4"      |        | 0.79               | 1.54               | 0.13                  | 100                        | 4.72                             |
| NL20ss-254     |           | M20    | 0.84               | 1.21               | 0.12                  | 100                        | 1.83                             |
| NL20spss-254   |           | M20    | 0.84               | 1.54               | 0.13                  | 100                        | 4.36                             |
| NL22ss-254     | 7/8"      | M22    | 0.92               | 1.36               | 0.13                  | 100                        | 2.62                             |
| NL22spss-254   | 7/8"      | M22    | 0.92               | 1.65               | 0.13                  | 50                         | 5.34                             |
| NL24ss-254     |           | M24    | 1.00               | 1.54               | 0.13                  | 100                        | 3.64                             |
| NL24spss-254   |           | M24    | 1.00               | 1.91               | 0.13                  | 50                         | 7.72                             |
| NL1"ss-254     | 1"        |        | 1.10               | 1.54               | 0.13                  | 100                        | 3.13                             |
| NL1"spss-254   | 1"        |        | 1.10               | 1.91               | 0.23                  | 50                         | 11.90                            |
| NL27ss-254     |           | M27    | 1.12               | 1.65               | 0.22                  | 50                         | 6.83                             |
| NL27spss-254   |           | M27    | 1.12               | 1.91               | 0.22                  | 25                         | 11.77                            |
| NL30ss-254     | 1 1/8"    | M30    | 1.24               | 1.85               | 0.22                  | 50                         | 8.90                             |
| NL33ss-254     | 1 1/4"    | M33    | 1.35               | 1.91               | 0.23                  | 25                         | 8.51                             |
| NL36ss-254     | 1 3/8"    | M36    | 1.47               | 2.17               | 0.23                  | 25                         | 12.13                            |
| NL39ss-254     | 1 1/2"    | M39    | 1.59               | 2.30               | 0.23                  | 25                         | 14.85                            |

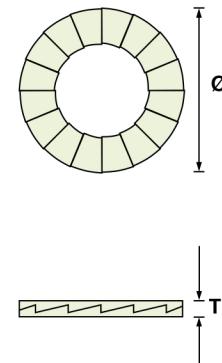
Nord-Lock washers made of 254 SMO® quality are standard stock items, yet subject to prior sale.

NL3ss-254–NL8ss-254  
 $\emptyset_i \pm 0.004$  inch  
NL10ss-254–NL39ss-254  
 $\emptyset_i \pm 0.008$  inch



NL3ss254 –NL24ss -254  
(NL1"ss-254)  
 $\emptyset_o \pm 0.008$  inch  
NL27ss-254–NL39ss-254  
 $\emptyset_o \pm 0.012$  inch

NL3ss-254 –NL39ss-254  
T±0.01inch



- Please consult our website for current dimensions and 2D / 3D CAD models: [www.nord-lock.com/cad](http://www.nord-lock.com/cad)
- Information regarding changes in materials and dimensions are available through [www.nord-lock.com/pcn](http://www.nord-lock.com/pcn)

## Torque guidelines

Nord-Lock 254 SMO® washers with **stainless steel bolt**, lubricated with copper/graphite paste (Molykote® 1000).

| Washer size  | Bolt size | Pitch [TPI] | 316ss, G <sub>r</sub> =65%<br>$\mu_{th}=0.12$ , $\mu_h=0.13$ |                 | 304ss, G <sub>r</sub> =65%<br>$\mu_{th}=0.14$ , $\mu_h=0.13$ |                 |
|--------------|-----------|-------------|--|-----------------|--|-----------------|
|              |           |             | Torque [ftlb]  | Clamp load [lb] | Torque [ftlb]  | Clamp load [lb] |
| NL3ss-254    | #5        | 40          | 0.6  | 342             | 0.7  | 342             |
| NL3.5ss-254  | #6        | 32          | 0.8  | 392             | 0.9  | 392             |
| NL4ss-254    | #8        | 32          | 1.4  | 602             | 1.5  | 602             |
| NL5ss-254    | #10       | 24          | 2.1  | 756             | 2.3  | 756             |
| NL1/4"ss-254 | 1/4       | 20          | 5.1  | 1,368           | 5.3  | 1,368           |
| NL8ss-254    | 5/16      | 18          | 10   | 2,249           | 11   | 2,249           |
| NL3/8"ss-254 | 3/8       | 16          | 18   | 3,320           | 19   | 3,320           |
| NL11ss-254   | 7/16      | 14          | 28   | 4,553           | 30   | 4,553           |
| NL1/2"ss-254 | 1/2       | 13          | 43   | 6,072           | 46   | 6,072           |
| NL14ss-254   | 9/16      | 12          | 62   | 7,781           | 66   | 7,781           |
| NL16ss-254   | 5/8       | 11          | 85   | 9,663           | 90   | 9,663           |
| NL3/4"ss-254 | 3/4       | 10          | 103  | 9,884           | 110  | 9,884           |
| NL22ss-254   | 7/8       | 9           | 165  | 13,637          | 176  | 13,637          |
| NL1"ss-254   | 1         | 8           | 250  | 17,886          | 266  | 17,886          |
| NL30ss-254   | 1 1/8     | 7           | 355  | 22,542          | 377  | 22,542          |
| NL36ss-254   | 1 3/8     | 6           | 649  | 34,089          | 691  | 34,089          |

Cu/C paste = Copper/graphite paste (Molykote® 1000)

G<sub>r</sub> = ratio of yield point. When tightening according to guidelines and with no deviation, this is the pre-stress achieved expressed as % of yield point.

$\mu_{th}$  = thread friction coefficient

$\mu_h$  = under head friction coefficient

1 lbf = 4.448 N

1 ft-lb = 1.356 Nm

Thread friction coefficients have theoretical values but are verified through testing. Under head friction coefficients have been established by tests. Torque guidelines for other bolt grades are available through your local Nord-Lock representative.