Nord-Lock washer material / type guide

Application parameter	Steel washers	Stainless steel (ss) washers	254 SMO® washers	INCONEL®/ HASTELLOY® C-276 washers	INCONEL® 718 washers
Steel type	EN 1.7182 or equivalent	EN 1.4404 or equivalent	EN 1.4547 or equivalent	EN 2.4819 or equivalent	EN 2.4667 or equivalent
Examples of applications	General steel applications	General stainless steel applications. Non chlorine / acid environments	General salt water applications, pumps, chloride applications, heat exchangers, nuclear, desalination, food processing & medical equipment	General acidic environments, process and chemical industry, evaporators, offshore downhole tooling	Applications with high temperatures, gas turbines, turbo charges, incinerators
Available for bolt sizes	M3-M130 (see page 8 for dimensions)	M3-M80 (see page 10 for dimensions)	M3-M39 (see page 11 for dimensions)	M3-M39 available upon request	M3-M39 available upon request
Washer types	Regular outer diameter (NL3–NL130) Enlarged outer diameter (NL3,5sp–NL36sp)	Regular outer diameter (NL3ss–NL80ss) Enlarged outer diameter (NL3,5spss–NL30spss)	Regular outer diameter (NL3ss-254–NL39ss-254) Enlarged outer diameter (NL3,5spss-254–NL27spss-254)	Regular outer diameter (NL3ss-276–NL39ss-276) Enlarged outer diameter (NL3,5spss-276–NL27spss-276)	Regular outer diameter (NL3ss-718–NL39ss-718) Enlarged outer diameter (NL3,5spss-718–NL27spss-718)
Treatment **Surface coating**	Through hardened Delta Protekt® base coat (KL100) and top coat (VH302GZ)	Surface hardened	Surface hardened	Surface hardened	Surface hardened
Washer hardness*	≥ 465 HV1	≥ 520HV0,05	≥ 600HV0,05	≥ 520HV0,05	≥ 620HV0,05
Corrosion resistance	Minimum 600 hours in salt spray test (according to IS09227)	PREN 27**	PREN 45**	PREN 68**	PREN 29**
Bolt grades	Up to 12.9	Up to A4-80	Up to A4-80	Up to A4-80	Up to A4-80
Temperature range***	-20°C to 200°C	-160°C to 500°C	-160°C to 500°C	-160°C to 500°C	-160°C to 700°C

* *In order to assure the unique mechanical locking function of the Nord-Lock washers, the hardness of the mating surfaces must be lower than the hardness of the Nord-Lock washers (see table above).*

** *PREN (Pitting Resistance Equivalent Number) = %Cr + 3,3x%Mo + 16x%N. Figures in table valid for base material.*

*** *Temperature recommendations based on information from the raw material supplier. Locking function not affected within the specification.*