



Coiled spring washers for railway tracks





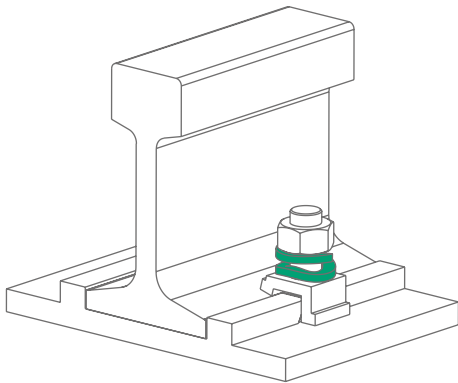
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Description

For many years single and double coiled spring washers were some of our most popular production items. These washers are generally used for railway applications, thanks to their unique geometry which prevents the rail loosening from the railroad ties. A triple coiled version has been recently implemented to complete the railway product range.

The experience gained from years of producing the coiled spring washers has given Growermetal the technical ability to offer:



- Coiled spring washers according to European and US standards.
- A wide range of sizes.
- A production in stainless steel AISI 316, suitable for corrosive environments.
- A version with ribbed bearing surface.

The ribbed surface assures major improvement of the spring washer's fastening performance. The ribs are only present on the bearing surface and therefore eliminate the risk of breakage. For added security, the ribs do not extend to the washer's edge, avoiding any risk of cracking. In order to assure quality conformance, the washers are tested as follows:

- Hardness test
- Loading test
- Torque test
- Twisting test
- Fracture test

Since 2000 Growermetal is a certified Q1 supplier for the German Railway Company DB (Deutsche Bahn).





Standard materials

- Spring steel hardened and tempered.
- Stainless steel A4 (AISI 316 - N°1.4401) EN 10088, cold rolled.

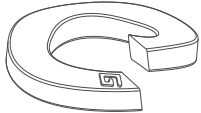
Standard coatings

- Burnishing with light oil film protection
- Mechanical zinc plating
- Zinc flake coating DELTA-PROTEKT® (internal process) and GEOMET®
- Hot-dip galvanization
- Other coatings upon customer request

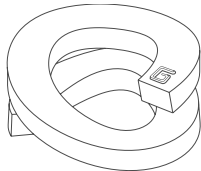


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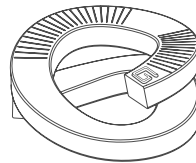
Dimensions and features



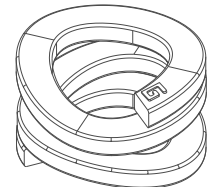
**SINGLE COILED
SPRING WASHER**



**DOUBLE COILED
SPRING WASHER**



**DOUBLE COILED
SPRING WASHER
WITH RIBBED
BEARING SURFACE**



**TRIPLE COILED
SPRING WASHER**

SINGLE COILED SPRING WASHER UIC 864 (DBS 918006)

BOLT SIZE	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	RESIDUAL HEIGHT MIN.**	KG/1000 N° PIECES*	N° PIECES BAG PACKAGING	N° PIECES BULK PACKAGING
25	25.20 - 26.20	46.60	9.80 - 10.20	5.80 - 6.20	9.80	50	500	8000

DOUBLE COILED SPRING WASHER UIC 864 (DBS 918006) - UNI 6217

BOLT SIZE	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	RESIDUAL HEIGHT MIN.**	KG/1000 N° PIECES*	N° PIECES BAG PACKAGING	N° PIECES BULK PACKAGING
21	21.00 - 22.50	42.90	9.80 - 10.20	5.80 - 6.20	16.80	84	300	4000
22	22.00 - 23.00	43.80	9.60 - 10.40	5.70 - 6.10	16.80	84.5	300	4000
24	23.40 - 24.60	45.00	9.80 - 10.20	5.80 - 6.20	17.80	88	300	4000
25	25.00 - 26.20	46.60	9.80 - 10.20	5.80 - 6.20	17.80	92	300	4000
26	26.20 - 27.20	47.00	9.80 - 10.20	5.80 - 6.20	17.80	94	300	4000
29	28.20 - 30.00	53.60	11.80 - 12.20	5.80 - 6.20	17.80	102.5	200	3500

TRIPLE COILED SPRING WASHER UIC 864 (DBS 918006)

BOLT SIZE	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	RESIDUAL HEIGHT MIN.**	KG/1000 N° PIECES*	N° PIECES BAG PACKAGING	N° PIECES BULK PACKAGING
25	25.20 - 26.20	47.20	9.80 - 10.20	5.80 - 6.20	24.50	145	200	1500

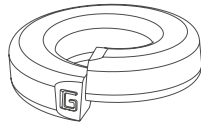
Standard material: carbon steel for springs (hardened and tempered)

* The specified values refer to the version carbon steel 38 Si 7 EN10089.

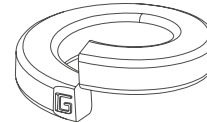
** The specified values refer to the washer's height after preloading.

Coiled spring washers for railway tracks

Dimensions and features



**SINGLE COILED
SPRING WASHER
1967 A.R.E.A.**



**SINGLE COILED
SPRING WASHER
PLAIN PATTERN
SQUARE EDGE**

SINGLE COILED SPRING WASHER 1967 A.R.E.A.

BOLT SIZE	SECTION BAND X THICKNESS (INCH)	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	RESIDUAL HEIGHT AFTER PRELOADING	KG/1000 N° PIECES	N° PIECES BUCKET PACKAGING	N° PIECES BULK PACKAGING
3/4"	13/32 x 7/15	19.84 - 20.63	41.27	10.00 - 10.60	10.70 - 11.30	16.60 - 18.12	84	550	5500
13/16"	13/32 x 7/16	21.43 - 22.22	42.86	10.00 - 10.60	10.70 - 11.30	16.60 - 18.12	86	500	5000
7/8"	13/32 x 7/16	23.01 - 23.81	44.45	10.00 - 10.60	10.70 - 11.30	16.60 - 18.12	88	500	5000
15/16"	13/32 x 7/16	24.60 - 25.40	46.03	10.00 - 10.60	10.70 - 11.30	16.60 - 18.12	91	500	4500
1"	1/2 x 1/2	26.20 - 26.98	53.18	12.40 - 13.00	12.40 - 13.00	19.50 - 21.50	154	150	3500
1" 1/16	1/2 x 1/2	27.78 - 28.57	54.76	12.40 - 13.00	12.40 - 13.00	19.50 - 21.50	161	280	2750
1" 1/8	17/32 x 17/32	29.37 - 30.16	57.15	13.20 - 13.80	13.20 - 13.80	20.50 - 23.50	181	100	2500
1" 1/4	17/32 x 17/32	32.55 - 33.33	60.32	13.20 - 13.80	13.20 - 13.80	20.50 - 23.50	193	230	2250
1" 3/8	17/32 x 17/32	35.72 - 36.51	63.50	13.20 - 13.80	13.20 - 13.80	20.50 - 23.50	206	200	2000
1" 1/2	17/32 x 17/32	38.89 - 39.69	66.67	13.20 - 13.80	13.20 - 13.80	20.50 - 23.50	220	200	1750

RONDELLE GROWER SINGLE PLAIN PATTERN SQUARE EDGE

BOLT SIZE	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	RESIDUAL HEIGHT	KG/1000 N° PIECES*	N° PIECES STANDARD PACKAGING	N° PIECES BULK PACKAGING
3/4"	19.85 - 20.63	39.68	9.22 - 9.72	9.22 - 9.72	17.90 - 19.90	59	800	7000
7/8"	23.02 - 23.81	42.86	9.22 - 9.72	9.22 - 9.72	17.90 - 19.90	65	800	6500
1"	26.20 - 26.98	46.03	9.22 - 9.72	9.22 - 9.72	17.90 - 19.90	71	750	6000
1" 1/16	27.78 - 28.57	47.62	9.22 - 9.72	9.22 - 9.72	17.90 - 19.90	73.4	250	5500
1" 1/8	29.37 - 30.16	49.21	9.22 - 9.72	9.22 - 9.72	17.90 - 19.90	77.4	675	5500
1" 1/4	32.54 - 33.33	52.38	9.22 - 9.72	9.22 - 9.72	17.90 - 19.90	83.9	550	5000

Dimensions in mm

Standard material: carbon steel for springs (hardened and tempered)



Growermetal

Around ideas



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