



## Coiled spring washers for railway tracks





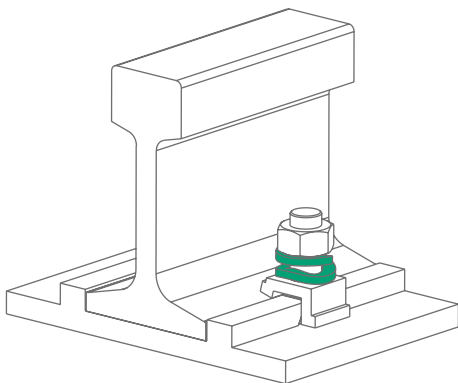
## Coiled spring washers for railway tracks



# Description

For many years 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.

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



- Single and double 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.
- 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.



## Standard materials

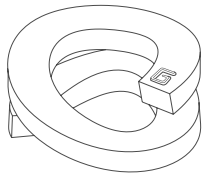
- Spring steels hardened and tempered.
- Stainless steel A4 (AISI 316 - N°1.4401) EN 10088, cold rolled.

## Standard coatings

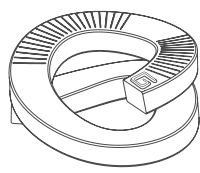
- Burnishing with light oil film protection
- Mechanical zinc plating
- Zinc flake coating DELTA-PROTEKT® (internal process) and GEOMET®
- Hot-dip galvanization
- Other coatings upon customer request



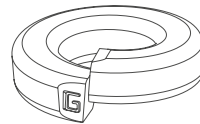
## Dimensions and features



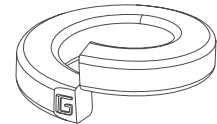
**DOUBLE COILED  
SPRING WASHER  
PLAIN**



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



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



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

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

SCREW SIZE	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	REMAINING 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

Dimensions in mm

\* The specified values refer to the version in 38 Si 7.

Standard materials: spring steel 38 Si 7 hardened and tempered, stainless steel A4 (AISI 316) cold rolled.

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

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

SCREW SIZE	SECTION BAND X THICKNESS (INCH)	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	REMAINING HEIGHT AFTER STRAIGHTENING	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

Dimensions in mm

### SINGLE COILED SPRING WASHER PLAIN PATTERN SQUARE EDGE

SCREW SIZE	INTERNAL DIAMETER MIN.-MAX.	EXTERNAL DIAMETER MIN.-MAX.	BAND MIN.-MAX.	THICKNESS MIN.-MAX.	REMAINING 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" 1/8	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: spring steel hardened and tempered.



# Our Products

Over **4.500** standard washers according to DIN, ASME, NFE and other international standards.

More than **2.500** special **items** manufactured according to customer's specifications or drawings.



TEETHED AND  
TOOTHED WASHERS

CONICAL ELASTIC  
WASHERS

RIBBED CONICAL  
ELASTIC WASHERS

COILED SPRING  
WASHERS

COILED SPRING  
WASHERS FOR  
RAILWAY TRACKS

CONVEXED AND  
CORRUGATED  
ELASTIC WASHERS

FLAT  
WASHERS

ELECTRIC TERMINAL  
WASHERS

SPHERICAL  
WASHERS

SEALING PUSH-IN  
CAPS

SAFETY  
WASHERS

WEDGE-LOCK  
WASHERS

SPECIAL PRODUCTS ACCORDING TO CUSTOMER DRAWING



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