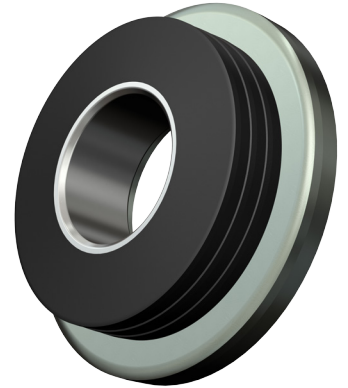


*The innovative spring solution,  
for easy assembly*

Alongside our **TREP** spring washers, GRIS GROUP has developed the **TREP<sup>plus</sup>** spring washer for use specifically on soft materials such as copper, aluminium or brass.

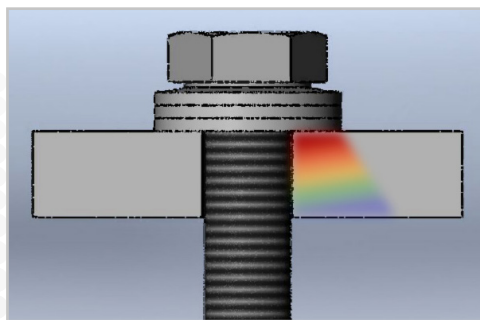


## >>> ITS PRINCIPLE

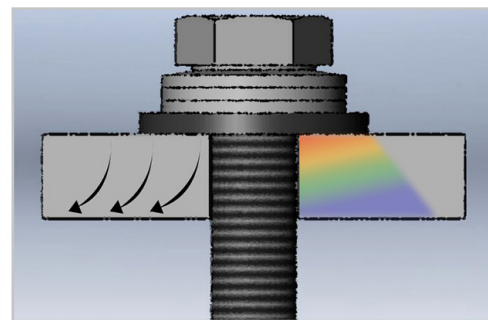
This is a system consisting of 3 or 4 smooth tapered spring washers together with a flat washer of larger outside diameter, all rendered interdependent by a metal insert.

## >>> MAIN CHARACTERISTICS

➔ Distribution of clamping force over a large surface area (+50 %).



Assembly with a **TREP** spring washer



Assembly with a **TREP<sup>plus</sup>** spring washer

➔ Safe, easy assembly through crimping (only one part needs handling instead of 2).

## >>> MATERIALS

### ➔ Spring washers **TREP<sup>®</sup>plus** :

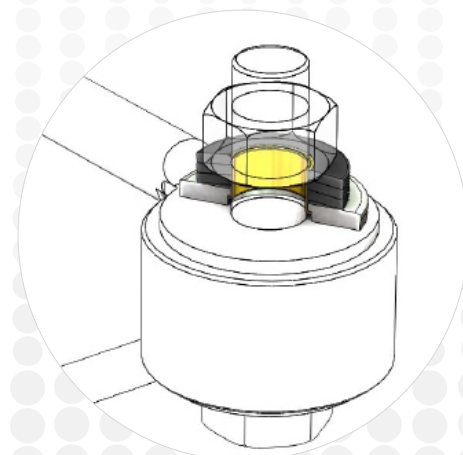
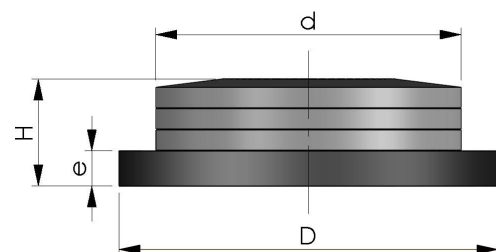
Conical spring elements made from carbon steel and heat-treated  
+ flat steel washer, minimum hardness 200HV.

### ➔ Spring washers **TREP<sup>®</sup>plus<sub>inox</sub>** :

Conical spring elements made from tempering stainless steel (X8 CrNiMoAl) and heat-treated  
+ flat stainless steel 304 washer with a mechanical resistance equivalent to 200HV.

## >>> DIMENSIONAL CHARACTERISTICS

screw dia.	<b>TREP<sup>®</sup> +</b>	<b>flat washer 200 HV</b>	=	<b>TREP<sup>®</sup>plus</b>	
	dimensions mm	outside diameter mm		thickness mm	total height mm
	<b>d</b>	<b>D</b>	<b>e</b>	<b>H</b>	<b>g</b>
M8	18	22	2,0	6,6	10,0
M10	22	27	2,5	8,0	19,2
M12	27	32	3,0	9,6	33,6
M14	30	35	3,0	10,4	42,8
M16	33	39	3,0	11,2	56,0
M18	36	42	4,0	13,0	75,3
M20	40	46	4,0	14,5	100,0



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