



# Standard Part

## Lockwasher, Belleville Spring Type - Preferred and Non-Preferred

STPF600

87307109

Rev W

Page 1 of 4

### REFERENCE DOCUMENTS

CNH STPA020	Fastener Finishes and Material Specifications
NF E 25-511	Rondelles Coniques Striees Serrage Symbole CS
DIN 2093	Disc Springs
MATERIAL	SAE 1060-1074 Fine Grain Steel or Equivalent
FINISH	STPA020 Fastener Finishes and Material Specifications
Iveco 18-1103	Zinc-Nickel Electrolytic Coating for Ferrous Metal Parts

Typical part description for BOM's and CAD drawings entered by Standards:

WASHER, BELLEVILLE LOCK M10X22 ZNM

For cross-reference listing of company part numbers, go to [CNH Catalogue](#).

### REQUIREMENTS

Parts shall conform to French National Standard "NF E 25-511".

Finish shall be mechanical zinc plating.

Parts shall be baked or otherwise treated for hydrogen embrittlement relief or as agreed upon by supplier and the local user.

Parts to be thru hardened and tempered to a hardness of Rockwell C42 to 50.

Short load test. Washers shall withstand being compressed flat for a period of two minutes by the application of the proof load specified in the table. When the load is released, the lock washer spring-back shall not be less than the specified minimum.

Plated carbon steel washers shall not fracture after having been compressed flat between hardened and ground steel plates for a period of 48 hours.

AUTHOR	APPROVED BY	ECO	PART NUMBER
A KHAN	19SEP24 A KHAN	19SEP24	35393473
			<b>87307109</b>

THE INFORMATION HEREON IS THE CONFIDENTIAL AND PROPRIETARY PROPERTY OF CNH INDUSTRIAL N.V. AND/OR ITS SUBSIDIARIES OR DIVISIONS. ANY USE, EXCEPT THAT FOR WHICH IT MAY BE LOANED, IS PROHIBITED.



# Standard Part

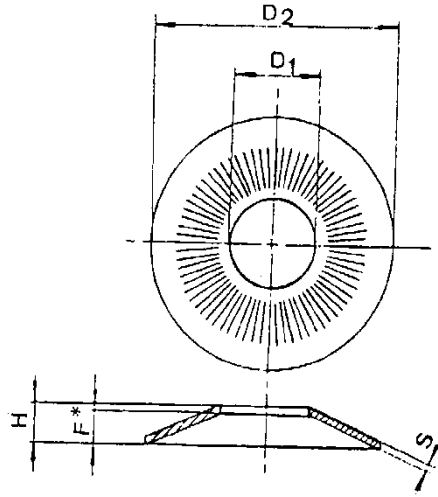
## Lockwasher, Belleville Spring Type - Preferred and Non-Preferred

STPF600

87307109

Rev W

Page 2 of 4



**Table 1. Washer, Belleville Spring Lock - Preferred**

Bolt Diameter Nominal	Outside Diameter Nominal	Thickness Nominal	Proof Load	Torque	Height Maximum	*Spring Back Minimum	Finish	Part Number
mm	mm	mm	N	Nm	Mm	mm		
6	14	1.3	9,500	10.6	2.1	0.25	ZNM	322357
8	18	1.4	17,500	26	2.35	0.35	ZNM	322358
10	22	1.6	27,500	51	2.75	0.45	ZNM	140045
10	22	1.6	27,500	51	2.75	0.45	DOR	84603129
12	27	1.8	40,000	88	3.1	0.60	ZNM	140046
16	32	2.8	75,000	215	4.1	0.65	ZNM	140048
20	40	3.2	100,000	410	4.9	0.70	ZNM	322359

\* Minimum spring-back after application of proof load



# Standard Part

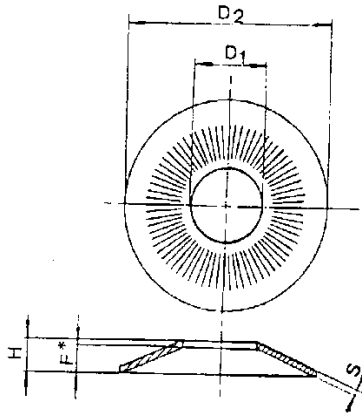
## Lockwasher, Belleville Spring Type - Preferred and Non-Preferred

STPF600

87307109

Rev W

Page 3 of 4



**Table 2. Washer, Belleville Spring Lock – Non-Preferred**

Bolt Diameter Nominal	Outside Diameter Nominal	Thickness Nominal	Proof Load	Torque	Height Maximum	*Spring Back Minimum	Finish	Part Number
mm	mm	mm	N	Nm	mm	mm		
3	8	0.6	2,400	1.3	1.0	0.15	ZNM	87389403
4	10	0.9	4,200	3.1	1.5	0.15	ZNM	322355
5	12	1.2	6,800	6.2	1.85	0.20	ZNM	322356
6	12	1.2	9,500	10.6	1.85	0.20	ZNM	412653
6	12.5	0.7	673		1.0	0.23	ZNM	300366
6	14	1.3	9,500	10.6	2.1	0.25	**	87033202
6	14	1.3	9,500	10.6	2.1	0.25	DAC	90333554
6	18	1.4	9,500	10.6	2.5	0.40	ZNM	412649
6	18	1.4			2.5		**	84007539
8	16	0.6			1.05		ZNM	300367
8	18	1.4	17,500	26	2.35	0.35	ZNM	#
8	18	1.4	17,500	26	2.35	0.35	DAC	90338438
8	22	1.4	17,500	26	2.7	0.50	ZNM	412650
10	20	1.6	27,500	51	2.6	0.35	ZNM	412655
10	22	1.6	27,500	51	2.75	0.45	ZNM	#
10	22	1.6	27,500	51	2.75	0.45	ZN-NI-4	92305859
10	22	1.6	27,500	51	2.75	0.45	DAC	90338442
10	24	3			3.7		ZNM	86589279
12	25	0.9	868		1.6	0.53	ZNM	47446996
12	27	1.8	40,000	88	3.1	0.60	ZNM	#
12	32	3.5			4.4		ZNM	86585939
12.7	38.1	1.19	1628		2.36	0.58	ZMM	47548111
14	30	2.4	55,000	140	3.7	0.60	ZNM	87389396
16	32	2.8	75,000	215	4.1	0.65	ZNM	#
16	32	2.8	75,000	215	4.1	0.65	DAC	90338557

# Preferred size, see Table 1

\* Minimum spring-back after application of proof load

\*\* Requires Mechanical Zinc with Black Chromate coating



# Standard Part

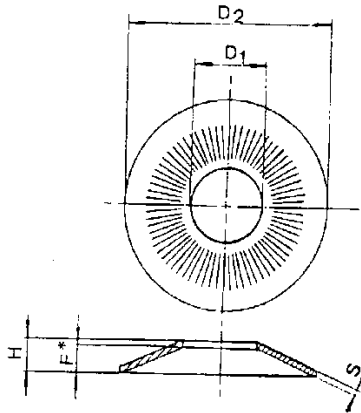
## Lockwasher, Belleville Spring Type - Preferred and Non-Preferred

STPF600

87307109

Rev W

Page 4 of 4



**Table 2. Washer, Belleville Spring Lock – Non-Preferred (Cont'd)**

Bolt Diameter Nominal	Outside Diameter Nominal	Thickness Nominal	Proof Load	Torque	Height Maximum	*Spring Back Minimum	Finish	Part Number
mm	mm	mm	N	Nm	mm	mm		
20	40	1	1020		1.6	0.98	ZNM	47447062
20	40	3.2	100,000	410	4.9	0.70	ZNM	#
20	40	3.2	100,000	410	4.9	0.70	BGM	91903337
20	40	3.2	100,000	410	4.9	0.70	Zn-Ni	90509340
24	47	3			5.4		ZNM	84606844
25	50	3			4.1	0.83	ZNM	47485726
30	60	3	10,100		4.69		ZNM	84238731
36	71	4	20,500		5.6	1.2	ZNM	84203282
# Preferred size, see Table 1								
* Minimum spring-back after application of proof load								
** Requires Mechanical Zinc with Black Chromate coating								
Zn-Ni – Zinc Nickel per Iveco 18-1103 Fe/ZnNi 7 IV								