

# DIN 983:2021-06 (E)

## Retaining rings with lugs for shafts (internal circlips)

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
1	Scope .....	5
2	Normative references .....	5
3	Terms and definitions .....	5
4	Symbols .....	6
5	Dimensions and design details .....	7
6	Material .....	11
7	Finish .....	11
8	Testing .....	12
8.1	Testing the material .....	12
8.2	Bend and fracture test .....	12
8.3	Testing deformation .....	12
8.3.1	Testing the conical deformation .....	12
8.3.2	Testing the spiral flatness .....	13
8.4	Functional test (permanent set and grip test) .....	13
8.5	Acceptance inspection .....	14
9	Load bearing capacity .....	14
9.1	General .....	14
9.2	Load bearing capacity of groove FN .....	14
9.3	Load bearing capacity of retaining ring FR .....	15
10	Detaching speed $n_{abl}$ .....	16
11	Concealed assembly .....	16
12	Design of the groove .....	16
12.1	Groove diameter $d_2$ .....	16
12.2	Groove width $m$ .....	17
12.3	Design of the groove base .....	17
13	Mounting of retaining ring .....	18
14	Designation .....	19
Figures	Figure 1 -- Retaining ring .....	7
	Figure 2 -- Installation example .....	7
	Figure 3 -- Bend test .....	12
	Figure 4 -- Testing conical deformation .....	12
	Figure 5 -- Testing spiral flatness .....	13

<b>Figure 6 -- Sharp-edged abutment .....</b>	<b>15</b>
<b>Figure 7 -- Abutment with edge chamfering distance (chamfering or rounding) .....</b>	<b>15</b>
<b>Figure 8 -- Sharp-edged abutment at the retaining ring using a supporting ring .....</b>	<b>16</b>
<b>Figure 9 -- Concealed assembly .....</b>	<b>16</b>
<b>Figure 10 -- Groove shapes .....</b>	<b>17</b>
<b>Figure 11 -- Design of the groove base .....</b>	<b>18</b>
<b>Figure 12 -- Mounting using a taper .....</b>	<b>19</b>
<b>Tables Table 1 -- Design .....</b>	<b>8</b>
<b>Table 2 -- Hardness of retaining rings .....</b>	<b>11</b>
<b>Table 3 -- Corrosion protection of retaining rings .....</b>	<b>11</b>
<b>Table 4 -- Conical deformation .....</b>	<b>13</b>
<b>Table 5 -- Spiral flatness .....</b>	<b>13</b>
<b>Table 6 -- Characteristics .....</b>	<b>14</b>