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**AMENDMENT 1**  
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**Fluid power systems — O-rings —**

**Part 3:  
Quality acceptance criteria**

**AMENDMENT 1**

*Transmissions hydrauliques et pneumatiques — Joints toriques —*

*Partie 3: Critères de qualité*

*AMENDEMENT 1*

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This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 7, *Sealing devices*.

A list of all parts in the ISO 3601 series can be found on the ISO website.

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# Fluid power systems — O-rings —

## Part 3: Quality acceptance criteria

### AMENDMENT 1

#### *Page 1, Scope*

Replace the Scope with the following new Scope:

This document defines the quality acceptance criteria of O-rings used in fluid systems, the dimensions of which are standardized in ISO 3601-1, ISO 16031-1 and ISO 16031-2. The ISO 3601 series of standards basically addresses O-rings with moulded cross-sections without a radial joint.

This document also defines and classifies surface imperfections on O-rings and specifies maximum acceptable limits for these imperfections.

This document is also applicable to O-rings to be used in aerospace construction.

#### *Page 5, Table 1*

Replace Table 1 with the new [Table 1](#) as shown below.

In accordance with Amendment 1 for ISO 3601-1:2012, three tolerance ranges for cross section diameters  $d_2 > 8,4$  mm were added. In addition, criterion *a* ("flash") for the combined flash was deleted for Grade N and Grade S O-rings.

#### *Page 6, Table 2*

Replace Table 2 with the new [Table 2](#) as shown below.

Criterion *a* ("flash") for the combined flash was deleted for Grade N and Grade S O-rings.

Table 1 — Limits of size for surface imperfections for Grade N O-rings

Dimensions in millimetres

Surface imperfection type	Diagrammatic representation	Limiting dimen- sions	Maximum limits of imperfections							
			Grade N O-rings Cross-section, $d_2$							
			$\geq 0,8^b$ $\leq 2,25$	$> 2,25$ $\leq 3,15$	$> 3,15$ $\leq 4,50$	$> 4,50$ $\leq 6,30$	$> 6,30$ $\leq 8,40$	$> 8,40$ $\leq 10,00$	$> 10,00$ $\leq 12,00$	$> 12,00$ $\leq 14,00^b$
Off-register, mis- match (offset)		$e$	0,08	0,10	0,13	0,15	0,15	0,19	0,22	0,25
Combined flash (combination of offset, flash and parting line projection)		$x$	0,10	0,12	0,14	0,16	0,18	0,20	0,23	0,26
		$y$	0,10	0,12	0,14	0,16	0,18	0,20	0,23	0,26
Backrind		$g$	0,18	0,27	0,36	0,53	0,70	0,90	1,10	1,30
		$u$	0,08	0,08	0,10	0,10	0,13	0,16	0,16	0,18
Excessive trim- ming (radial tool marks not allowed)		$n$	Trimming is allowed provided the dimension $n$ is not reduced below the minimum diameter $d_2$ for the O-ring.							
Flow marks (ra- dial orientation of flow marks is not permissible)		$v$	1,50 <sup>a</sup>	1,50 <sup>a</sup>	6,50 <sup>a</sup>	6,50 <sup>a</sup>	6,50 <sup>a</sup>	6,50 <sup>a</sup>	8,50 <sup>a</sup>	8,50 <sup>a</sup>
		$k$	0,08	0,08	0,08	0,08	0,08	0,08	0,10	0,10
Non-fills and indentations (in- cluding parting line indentations)		$w$	0,60	0,80	1,00	1,30	1,70	2,20	2,50	2,80
		$t$	0,08	0,08	0,10	0,10	0,13	0,15	0,16	0,18

<sup>a</sup> Or 0,05 times the O-ring's inside diameter ( $d_2$ ), whichever is greater.

<sup>b</sup> Limits of imperfections for cross sections  $d_2 < 0,8$  mm or  $d_2 > 14$  mm shall be agreed upon between manufacturer and customer.

<sup>c</sup> Round edges.