

DIN 2275

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Supersedes
DIN 2275:1977-09**Feeler gauges,
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In case of doubt, the German-language original shall be considered authoritative.

A comma is used as the decimal marker.

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Foreword

This document has been prepared by Subcommittee NA 152-03-02-07 UA *Längenprüftechnik außer Koordinaten-, Form- und Oberflächenmesstechnik sowie Gewindekenngrößen* of the *Normenausschuss Technische Grundlagen* (NATG) (Fundamental Technical Standards Committee).

An additional tolerance class (TC2) has been included, whose values have been based upon the dimensions of the basic material the German steel industry can deliver. Thus, manufacturers will be able to produce a significantly greater percentage of their feeler gauges in compliance with the standard (either tolerance class 1 or tolerance class 2).

Feeler gauge tapes are not covered by this standard. Because feeler gauge tapes are produced in various widths and lengths (often coiled), standardization was not deemed practical. Upon agreement, the values in Table 1 or as in DIN EN 10140 may be applied to the tolerances of feeler gauge tapes.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. DIN shall not be held responsible for identifying any or all such patent rights.

Amendments

The standard differs from DIN 2275:1977-09 as follows:

- a) the values of the tolerances in tolerance class 1 (TC1) have been changed for specific nominal thicknesses to correspond more closely with the rounded theoretical values;
- b) the tolerance class 2 (TC2) has been included;
- c) tolerances have been specified with reference to the nominal thickness;
- d) the designation of a feeler gauge set with a special configuration has been included;
- e) the standard has been editorially revised.

Previous editions

DIN 2275: 1970-01, 1977-09

1 Scope

This standard applies to feeler gauges and feeler gauge sets of steel with a minimum length of 100 mm. It specifies dimensions and tolerances for feeler gauges as well as the most commonly found feeler gauge sets.

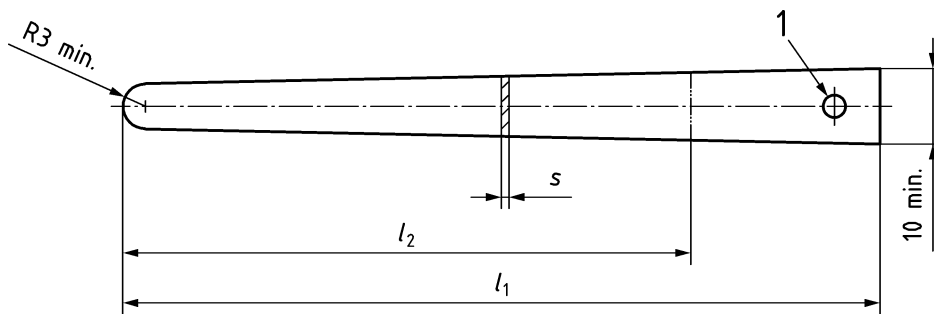
2 Feeler gauges

2.1 Dimensions and designation

2.1.1 Dimensions

Dimensions shall be as given in Figure 1 and Table 1.

The feeler gauges need not conform to the illustration; the dimensions shall be complied with.



Key

- 1 Hole for the holder
- l_1 Total length $l_1 \geq 100$ mm
- l_2 Useful length $l_2 \geq 75$ mm
- s Nominal thickness

Figure 1 — Feeler gauge

2.1.2 Designation

Designation of a feeler gauge with a nominal thickness $s = 0,8$ mm and tolerance class 1 (TC 1):

Feeler gauge DIN 2275 — 0,8 — TC1

2.2 Requirements

2.2.1 General

The edges of the feeler gauges shall be deburred.

2.2.2 Tolerances

The tolerances f_1 and f_2 have been calculated using the formulas below and rounded to the nearest micrometre:

$$f_1 = \pm \left(3 \mu\text{m} + 1,25 \cdot s \cdot 10^{-2} \right) \text{ (for tolerance class 1);}$$

$$f_2 = \pm \left(4 \mu\text{m} + 2 \cdot s \cdot 10^{-2} \right) \text{ (for tolerance class 2).}$$

The tolerances for the nominal thickness s of the feeler gauges are to be taken from Table 1.

If a dimension is made up of the thicknesses of several feeler gauges, care shall be taken to ensure that the variations in the thicknesses of the individual feeler gauges overlap.

Table 1 — Tolerances for feeler gauges

Nominal thickness <i>s</i>		Tolerances	
		for TC1	for TC2
over mm	up to mm	<i>f</i> ₁ µm	<i>f</i> ₂ µm
	0,03	±3	±5
0,03	0,04	4	±5
0,04	0,05	±4	±5
0,05	0,06	±4	±5
0,06	0,07	±4	±5
0,07	0,08	±4	±6
0,08	0,09	±4	±6
0,09	0,10	±4	±6
0,10	0,15	±5	±7
0,15	0,20	±6	±8
0,20	0,25	±6	±9
0,25	0,30	±7	±10
0,30	0,35	±7	±11
0,35	0,40	±8	±12
0,40	0,45	±9	±13
0,45	0,50	±9	±14
0,50	0,55	±10	±15
0,55	0,60	±11	±16
0,60	0,65	±11	±17
0,65	0,70	±12	±18
0,70	0,75	±12	±19
0,75	0,80	±13	±20
0,80	0,85	±14	±21
0,85	0,90	±14	±22
0,90	0,95	±15	±23
0,95	1,00	±16	±24
1,00	1,10	±17	±26
1,10	1,20	±18	±28
1,20	1,30	±19	±30
1,30	1,40	±21	±32
1,40	1,50	±22	±34
1,50	1,60	±23	±36
1,60	1,70	±24	±38
1,70	1,80	±26	±40
1,80	1,90	±27	±42
1,90	2,00	±28	±44

2.2.3 Material

Feeler gauge: steel at manufacturer's discretion

Holder: material at manufacturer's discretion

2.2.4 Hardness

Feeler gauges shall have a Vickers hardness of at least (420 ± 50) HV 5.

2.2.5 Marking

Feeler gauges complying with this standard are to be marked. The marking shall include:

- the nominal thickness s ;
- the tolerance class;

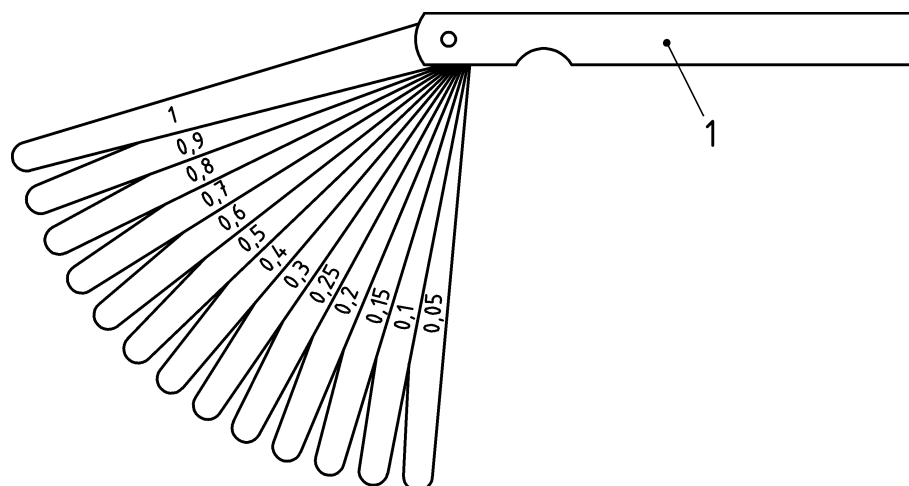
The marking shall not cause the tolerances for s to be exceeded.

3 Feeler gauge sets

3.1 General

A feeler gauge set consists of feeler gauges (see Clause 2) of varying nominal thicknesses s and an appropriate holder. The holder is to be furnished with a clamp which allows the feeler gauges to be fixed in a fan-shaped position (see Figure 2).

The most common and useful feeler gauge set configurations are listed in Table 2. Additional variations of feeler gauge sets with a special configuration may be agreed upon between the supplier and purchaser.



Key

1 Holder

NOTE A set C of feeler gauges is illustrated here (see Table 2).

Figure 2 — Feeler gauge set

3.2 Designation

Designation of a set C of feeler gauges with tolerance class 1 (TC1):

Feeler gauge DIN 2275 — C — TC1

Designation of a feeler gauge set with a special configuration (S) and tolerance class 2 (TC2):

Feeler gauge DIN 2275 — S — TC2

In this case, the feeler gauges included in the feeler gauge set are to be listed.

Table 2 — Feeler gauge sets

Nominal thickness <i>s</i> mm	Feeler gauge sets				
	A	B	C	D	E
0,03		X			
0,04		X			
0,05	X	X	X	X	
0,06		X			
0,07		X			
0,08		X			
0,09		X			
0,1	X	X	X	X	X
0,15	X	X	X	X	
0,2	X	X	X	X	X
0,25	X	X	X	X	
0,3	X	X	X	X	X
0,35				X	
0,4	X		X	X	X
0,45				X	
0,5	X		X	X	X
0,55				X	
0,6			X	X	X
0,65				X	
0,7			X	X	X
0,75				X	
0,8			X	X	X
0,85				X	
0,9			X	X	X
0,95				X	
1,0			X	X	X
1,1					X
1,2					X
1,3					X
1,4					X
1,5					X
1,6					X
1,7					X
1,8					X
1,9					X
2,0					X

3.3 Marking

Feeler gauge sets complying with this standard are to be marked on the holder. The marking shall include:

- the manufacturer's/supplier's mark;
- the smallest and largest nominal thickness s ;
- the tolerance class;
- the number of feeler gauges;
- a unique alphanumeric identification mark.

Bibliography

DIN EN 10140, *Cold rolled narrow steel strip — Tolerances on dimensions and shape*