International Standard ISO 5837/1

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Implants for surgery — Intramedullary nailing systems — Part 1 : Intramedullary nails with cloverleaf or V-shaped cross-section

Implants chirurgicaux — Systèmes d'enclouage intramédullaire — Partie 1 : Clous intramédullaires à section en forme de trèfle ou en V

First edition — 1985-06-15

UDC 615.465 : 621.882.2 **Ref. No. ISO 5837/1-1985 (E)**

Descriptors : medical equipment, surgical implants, nails (fasteners), dimensions, dimensional tolerances.

Price based on 5 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5837/1 was prepared by Technical Committee ISO/TC 150, *Implants for surgery.*

Implants for surgery — Intramedullary nailing systems — Part 1: Intramedullary nails with cloverleaf or V-shaped cross-section

1 Scope and field of application

This part of ISO 5837 specifies the main and fitting dimensions for intramedullary nails with cloverleaf or V-shaped cross-section for use in bone surgery. It also specifies extracting hooks and recommends the diameters of the guide wires to be used with the nails.

NOTE — All dimensions are given in millimetres.

2 References

ISO 5832, *Implants for surgery — Metallic materials*

— *Part 1: Wrought stainless steel.*

— *Part 5: Wrought cobalt-chromium-tungsten-nickel alloy.*

3 Form A

Intramedullary nails with cloverleaf cross-section, straight.

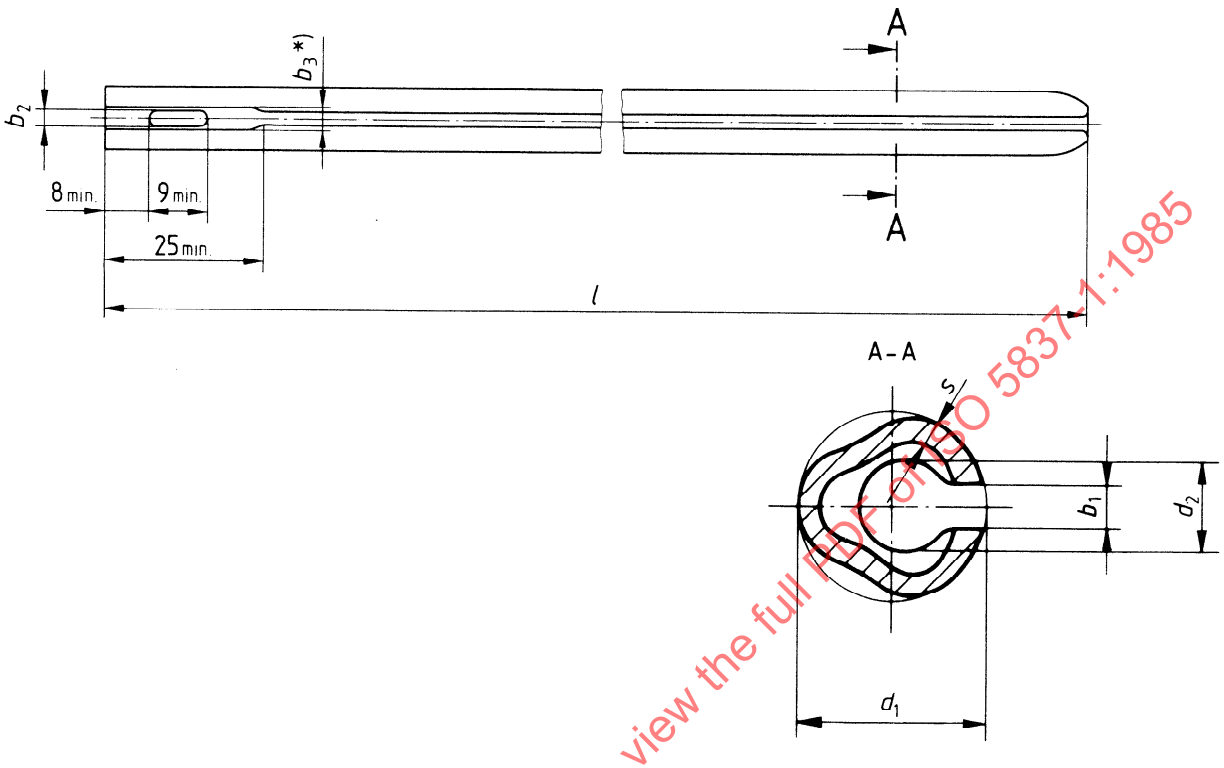

Figure 1

* b_3 can continue throughout the length of the nail. For functional reasons it is to be borne in mind that in this case b_3 shall not exceed the diameter of the relevant guide wire (see clause 8).

Table 1

	6	7	8	9	10	11	12	13	14	15	16
d_1	0 −0,18	0 −0,22				0 −0,27					
d_2 min.	2,7	3	3,3	3,8	4,5		5,3		6,3		
b_1	1,8				2,5						3
	+0,45 0				+0,7 0						
b_2 min.	2,2				3,2						
b_3 +0,7 0	2,6				3,3						
s Stainless steel type B, ISO 5832/1	0,80 to 1,15	0,90 to 1,25	1,15 to 1,50	1,30 to 1,65							
s Wrought cobalt-chromium-tungsten-nickel alloy, ISO 5832/5	0,79 to 0,99	0,97 to 1,17		1,27 to 1,47							
l (In all ranges steps of 10 mm)	140 to 400		200 to 500		240 to 500			290 to 500			

4 Form B

Intramedullary nails with cloverleaf cross-section, curved.

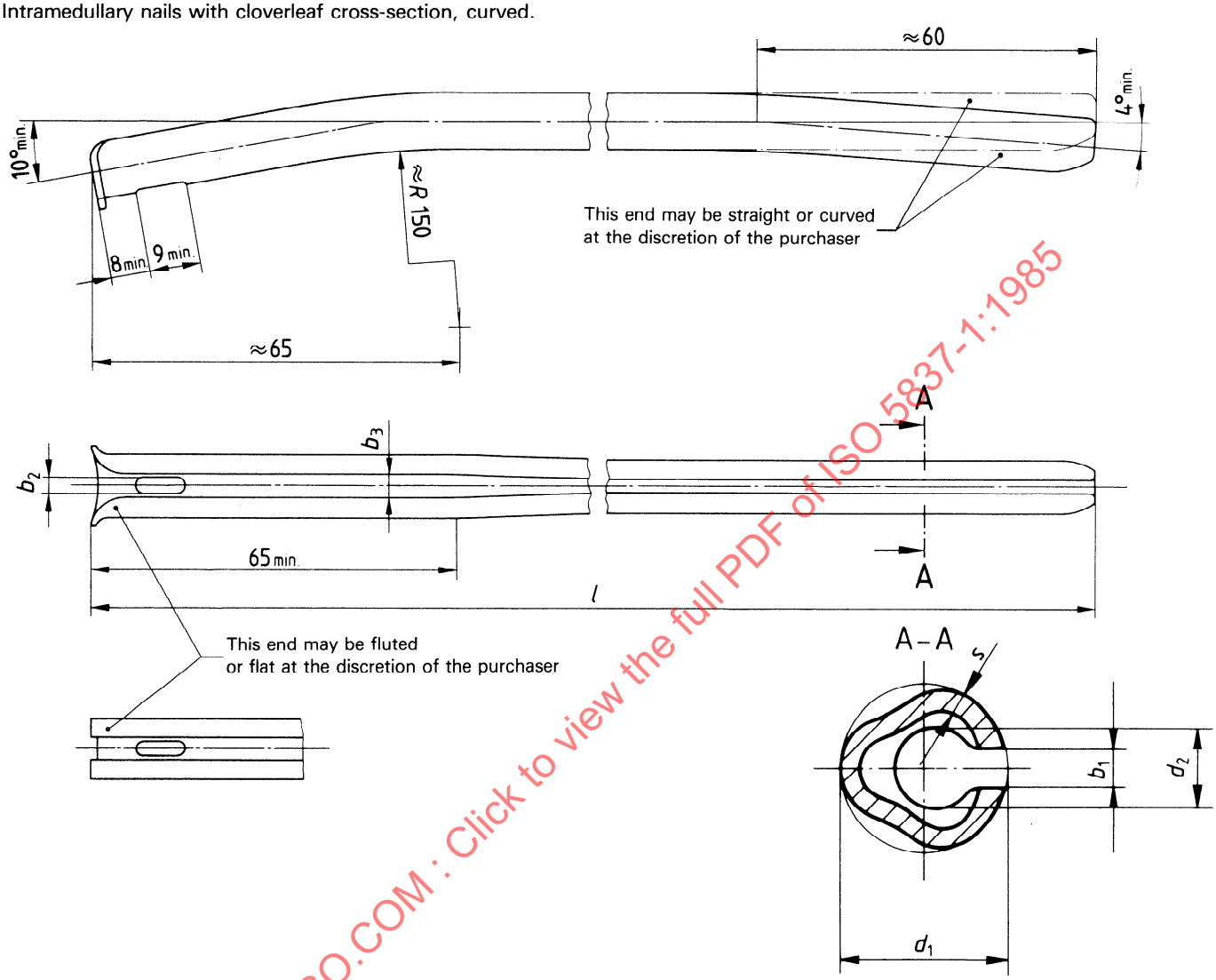

Figure 2

Table 2

d_1		6	7	8	9	10	11	12	13	14	15	16
		0 −0,18	0 −0,22				0 −0,27					
d_2	min.	2,7	3	3,3	3,8	4,5		5,3		6,3		
b_1		1,8				2,5						3
		+0,45 0				+0,7 0						
b_2	min.	2,2				3,2						
b_3	+0,7 0	2,6		3,2	3,7	4,2		4,7				
s	Stainless steel type B, ISO 5832/1	0,80 to 1,15	0,90 to 1,25	1,15 to 1,50	1,30 to 1,65							
	Wrought cobalt-chromium-tungsten-nickel alloy, ISO 5832/5	0,79 to 0,99	0,97 to 1,17		1,27 to 1,47							
l	(In all ranges steps of 10 mm)	140 to 380		180 to 420		240 to 420		290 to 420				

5 Form C

Intramedullary nails with V-shaped cross-section.

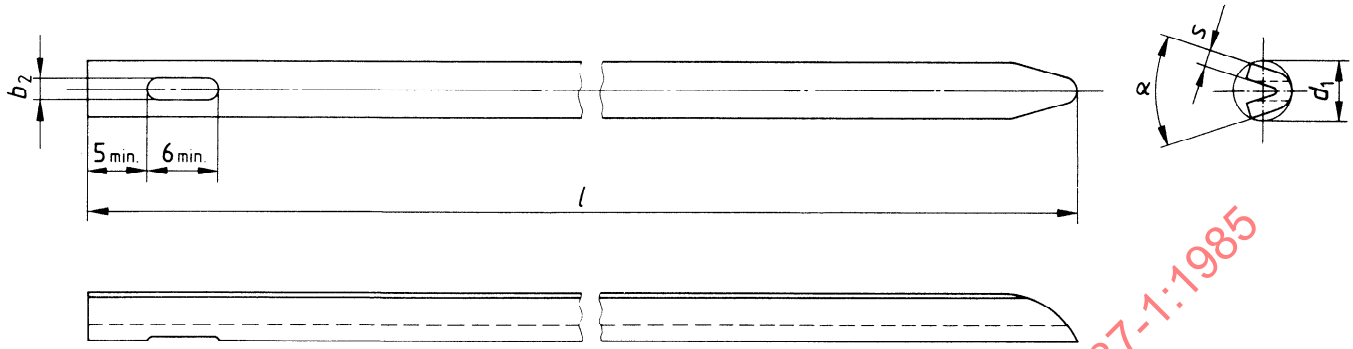

Figure 3

Table 3

d_1	4	4,5	5	5,5	6	7	8	11
	0 −0,18					0 −0,22		0 −0,27
b_2 min.	1,3			1,9				
s Stainless steel type B, ISO 5832/1	1,10 to 1,40		1,35 to 1,65					
α ± 5°	35°							53°
l (In all ranges steps of 10 mm)	120 to 300							

6 Form D

Intramedullary nails with cloverleaf cross-section, double-ended.

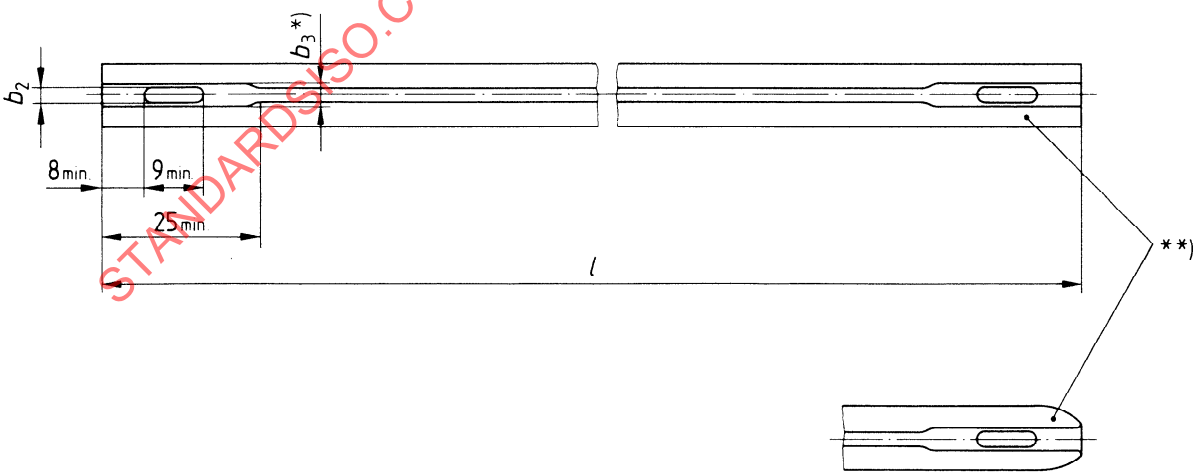

Figure 4

* b_3 can continue throughout the length of the nail. For functional reasons it is to be borne in mind that in this case b_3 shall not exceed the diameter of the relevant guide wire (see clause 8).

** The ends may be flat or tapered in an asymmetric curved manner at the discretion of the purchaser.

The dimensions of the form D nails are given in table 1, as for form A.