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मानक

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“Step Out From the Old to the New”

IS 7105-2 (1986): Extractor for Kuntscher Nail, Part 2:  
Striker Type [MHD 2: Orthopaedic Instruments, Implants and  
Accessories]



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“Knowledge is such a treasure which cannot be stolen”

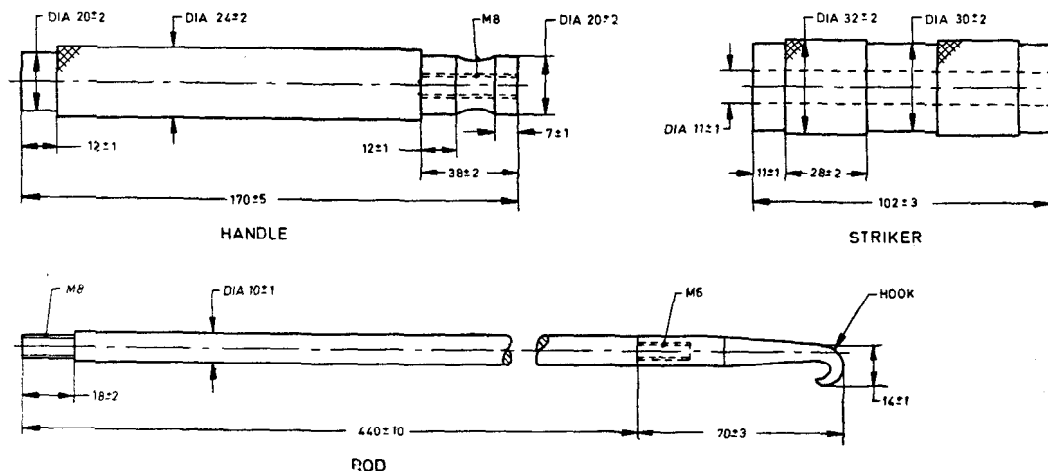


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*Indian Standard*  
**SPECIFICATION FOR  
 EXTRACTOR FOR KUNTSCHER NAIL**  
**PART 2 STRIKER TYPE**

1. **Scope** — Specifies dimensional and other requirements for striker type extractor for Kuntscher nail used in orthopaedic surgery.
2. **Material** — Shall be according to designation 30Cr13 of IS : 6603-1972 'Specification for stainless steel bars and flats.'
3. **Shape and Dimensions** — As shown in Fig. 1.



All dimensions in millimetres.  
 FIG. 1 EXTRACTOR FOR KUNTSCHER NAIL, STRIKER TYPE

4. **Heat Treatment** — Shall be hardened and tempered to 400 to 450 HV.

5. **Workmanship and Finish**

- 5.1 The parts of the extractor shall be formed in one piece.
- 5.2 The hook end shall be rounded as shown in Fig. 1.

6. **Surface Condition**

6.1 **General** — All surfaces shall be free from pores, crevices and grinding marks. The instruments shall be supplied free from residual scale acid, grease and grinding and polishing materials. Compliance with these requirements shall be checked by inspection using normal vision (corrected, if necessary).

6.2 **Surface Finish** — The surface finish shall be one of, or a combination of the following:

- a) mirror polished;
- b) reflection-reducing, for example, satin finish, matt black finish; and
- c) an applied surface coating, for example, for insulation purposes.

**Note** — The satin finish should be effected by an appropriate procedure such as grinding, brushing, electropolishing and, in addition, satin finishing (glass beading or satin brushing). The finish should be uniform and smooth and it should reduce glare.

Instruments of mirror finish should be adequately ground to remove all surface imperfections and polished to remove grinding marks, resulting in a mirror finish. The mirror finish should be effected by an appropriate procedure, such as polishing, brushing, electropolishing and mirror buffing.

**6.3 Passivation and Final Treatment** — The instruments shall, unless the metallurgical characteristics of the instruments ( for example, the presence of brazed or soldered joints ) renders it inappropriate, be treated by a suitable passivation process.

**Note** — Examples of methods of passivation are by electropolishing or by treating with 10 percent ( v/v ) nitric acid solution for not less than 30 min at a temperature of not less than 10°C and not exceeding 60°C. The instruments should then be rinsed in water and dried in hot air.

## **7. Tests**

**7.1 Corrosion Resistance Test** — Scrub the instrument with soap and warm water, rinse in hot water and then dip in 95 percent ethyl alcohol. Dry the instrument, immerse in copper sulphate solution at room temperature for 6 minutes and wash with fresh water or wet cotton wool.

The copper sulphate solution shall be made up as follows:

Copper sulphate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ )	4.0 g
Sulphuric acid ( $\text{H}_2\text{SO}_4$ ) ( Sp gr 1.84 )	10.0 g
Distilled water ( see IS : 1070-1977 Specification for water for general laboratory use ).	90.0 ml

There shall be no red stains or spots on the instrument, but dulling of the polished surface may be permitted.

**7.2 Performance Test** — The handle end shall be gripped in a suitable vice and the hook end shall be pulled by applying a load of 50 kg. The extractor shall not be damaged after completion of the test.

**8. Marking** — The extractor shall be marked with the manufacturer's name, initials or recognised trade-mark.

**8.1 Certification Marking** — Details available with the Bureau of Indian Standards.

**9. Packing** — As agreed to between the purchaser and the supplier.

## **EXPLANATORY NOTE**

This standard ( IS : 7105 ) was issued in 1973. Now the original standard has been made as Part 1 of IS : 7105. This Part 2 of the standard covers striker type extractor for Kuntscher nail.