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# International Standard



# 799

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

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## Shipbuilding — Pilot ladders

*Construction navale — Échelles de pilote*

Second edition — 1986-10-01

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Descriptors : shipbuilding, ladders, pilot ladders, specifications, designation, marking.

## 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 799 was prepared by Technical Committee ISO/TC 8, *Shipbuilding and marine structures*.

This second edition cancels and replaces the first edition (ISO 799-1980) of which it constitutes a minor revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Shipbuilding — Pilot ladders

## 1 Scope and field of application

This International Standard specifies requirements for a ship's pilot ladder which is provided for a pilot to embark and disembark safely.

## 2 References

ISO 1181, *Three- or four-strand manila and sisal ropes*.

ISO 1461, *Metallic coatings — Hot dip galvanized coatings on fabricated ferrous products — Requirements*.

ISO 7040, *Prevailing torque type hexagon nuts (with non-metallic insert), style 1 — Property classes 5, 8 and 10*.

ISO 7089, *Plain washers — Normal series — Product grade A*.

## 3 Dimensions

The dimensions of the assembled pilot ladder and of the components shall be in accordance with figures 1 to 6.

## 4 Materials

4.1 The materials of components shall be in accordance with table 1. Metal parts shall not be used in the pilot ladder construction, except for items 5, 9, 10 and 11 of table 1.

4.2 Steps, spreader steps, replacement step, replacement spreader step and split distance pieces shall each be made of hardwood (ash, oak, elm, beech or teak) free from knots, or from other materials having equivalent relative density, strength, durability and buoyancy. The lowest four steps may be made of rubber of sufficient strength and stiffness, or of other suitable material of equivalent characteristics. Steps and spreaders shall have an efficient non-slip surface.

4.3 The seizing for side ropes shall consist of two- or three-ply marline of minimum breaking strength 800 N, or other suitable material of equivalent strength.

## 5 Construction

5.1 The pilot ladder shall be assembled in accordance with figure 1 and table 2 to have an equal step spacing of  $310 \pm 5$  mm.

Table 1 — Components and materials

Item	Component	Material	Specification
1	Step	Hardwood	See 4.2
2	Spreader step	Hardwood	See 4.2
3	Side ropes	Manila	ISO 1181, Quality 1
4	Side rope seizing	Marline	See 4.3
5	Fibre rope thimble	Steel, galvanized	Nominal size 20
6	Extension service rope	Manila	ISO 1181, Quality 1
7	Replacement step	Hardwood	See 4.2
8	Replacement spreader	Hardwood	See 4.2
9	Cup square bolt	Steel, galvanized	M5
10	Washer	Steel, galvanized	ISO 7089-5-140 HV
11	Prevailing torque nut	Steel, galvanized	ISO 7040-M5-5-NF

5.2 Steps shall be constructed from one piece to the dimensions given in figure 2. Their non-slip upper surfaces shall be provided by either

- a) longitudinal grooving, or
- b) the application of an approved non-slip coating.

5.3 Spreader steps shall be constructed from one main bar and two split distance pieces to the dimensions given in figure 4, held firmly together by four M5 cup square bolts, washers and prevailing torque nuts. Metal parts shall be galvanized in accordance with ISO 1461. Spreaders shall be positioned in accordance with table 2.

**Table 2 — Number of steps and relative positions of spreaders**

Number of steps (S)	Position(s) of spreader step(s)*
6	5
7	5
8	5
9	5
10	5
11	5
12	5
13	5
14	5, 12
15	5, 13
16	5, 14
17	5, 14
18	5, 14
19	5, 14
20	5, 14
21	5, 14
22	5, 14
23	5, 14, 21
24	5, 14, 22
25	5, 14, 23
26	5, 14, 23
27	5, 14, 23
28	5, 14, 23
30	5, 14, 23

\* The spreader step positions are determined by the step number counted from the bottom of the ladder.

5.4 Side ropes shall have a diameter of 20 mm (circumference 64 mm) and shall be seized together as closely as possible above and below each step by a figure-of-eight racking seizing. The side ropes below the bottom step shall have a double racking seizing as shown in figure 1. A racking

seizing shall be applied below the fibre rope thimbles. Side ropes shall each be of one continuous length without joints.

5.5 A single 20 mm diameter (circumference 64 mm) manila extension service rope 3 000 mm in length (minimum) shall be fitted to each side rope thimble by means of an eye splice.

5.6 All rope ends shall be whipped for a distance of 25 mm with waxed sailmaker's twine or equivalent material.

5.7 One spare replacement step shall be constructed from a single section to the dimensions given in figure 5, and assembled with two split distance pieces as required in 5.3.

5.8 One spare replacement spreader shall be constructed from one top section to the dimensions given in figure 6, and assembled with two split distance pieces as required in 5.3.

## 6 Designation

Pilot ladders conforming to this International Standard shall be designated by the following indications, in the order given :

- number of this International Standard;
- a capital "S" followed by the number of steps (see table 2).

*Example :*

The designation for a pilot ladder consisting of 14 steps is :

**Pilot ladder ISO 799-S14**

NOTE — The length of a pilot ladder determined by the designation shall include an allowance for a 15° adverse list.

Spare or additional components shall be designated by reference to the relevant International Standard.

*Example :*

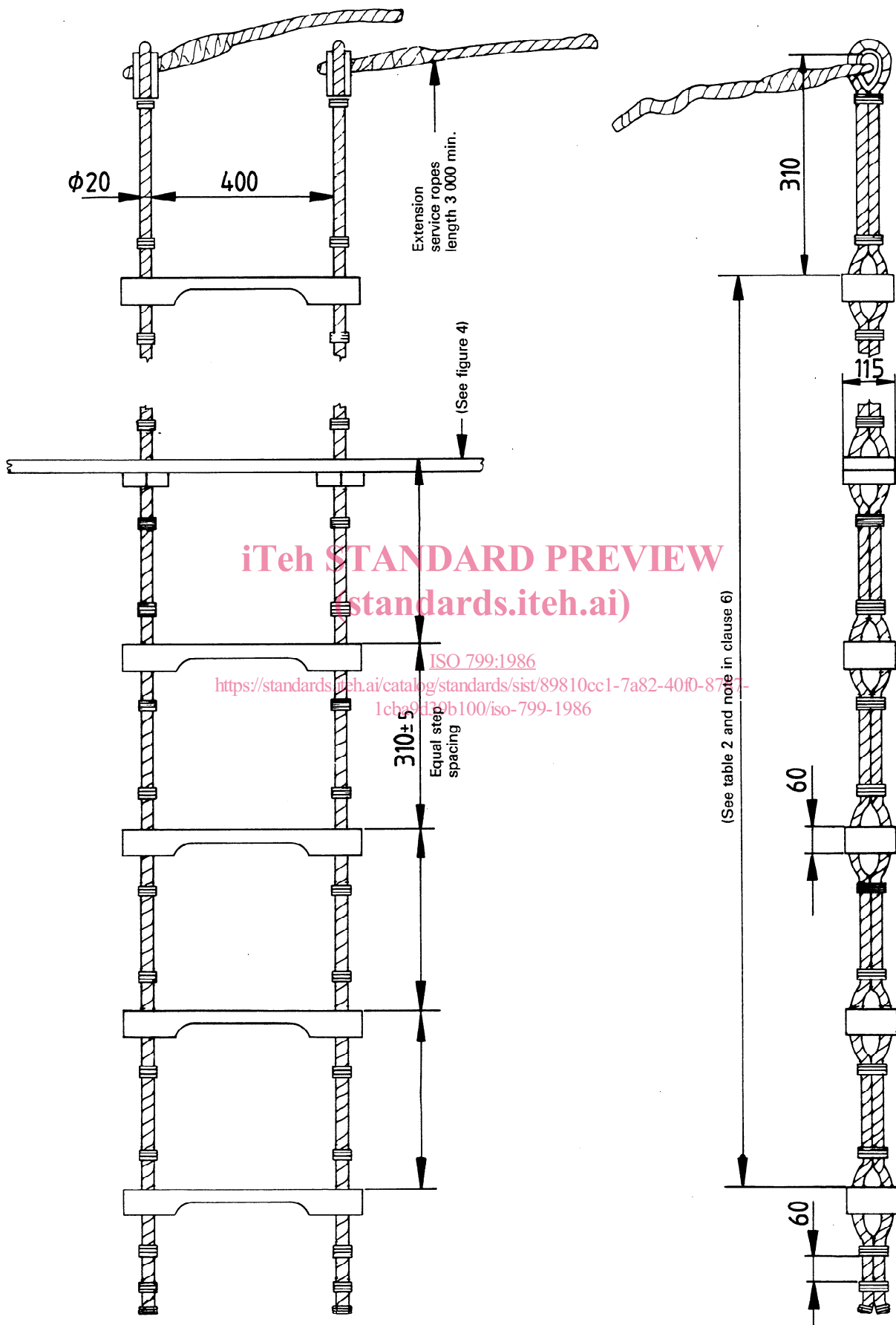
The designation for a spare step according to this International Standard is :

**Step ISO 799**

## 7 Marking

Pilot ladders conforming to this International Standard shall be permanently marked under the two steps by the number of this International Standard : ISO 799.

Dimensions in millimetres



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Figure 1 — Assembled pilot ladder

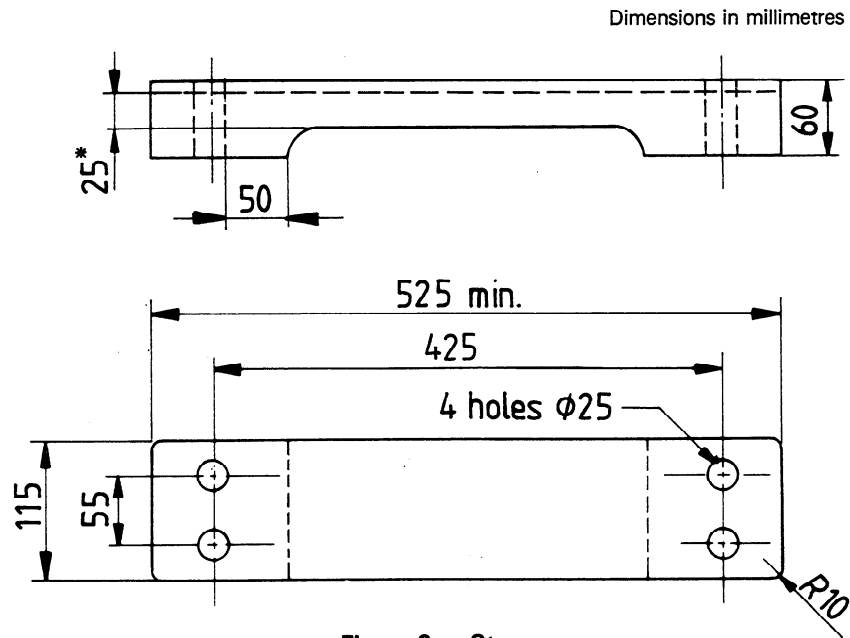
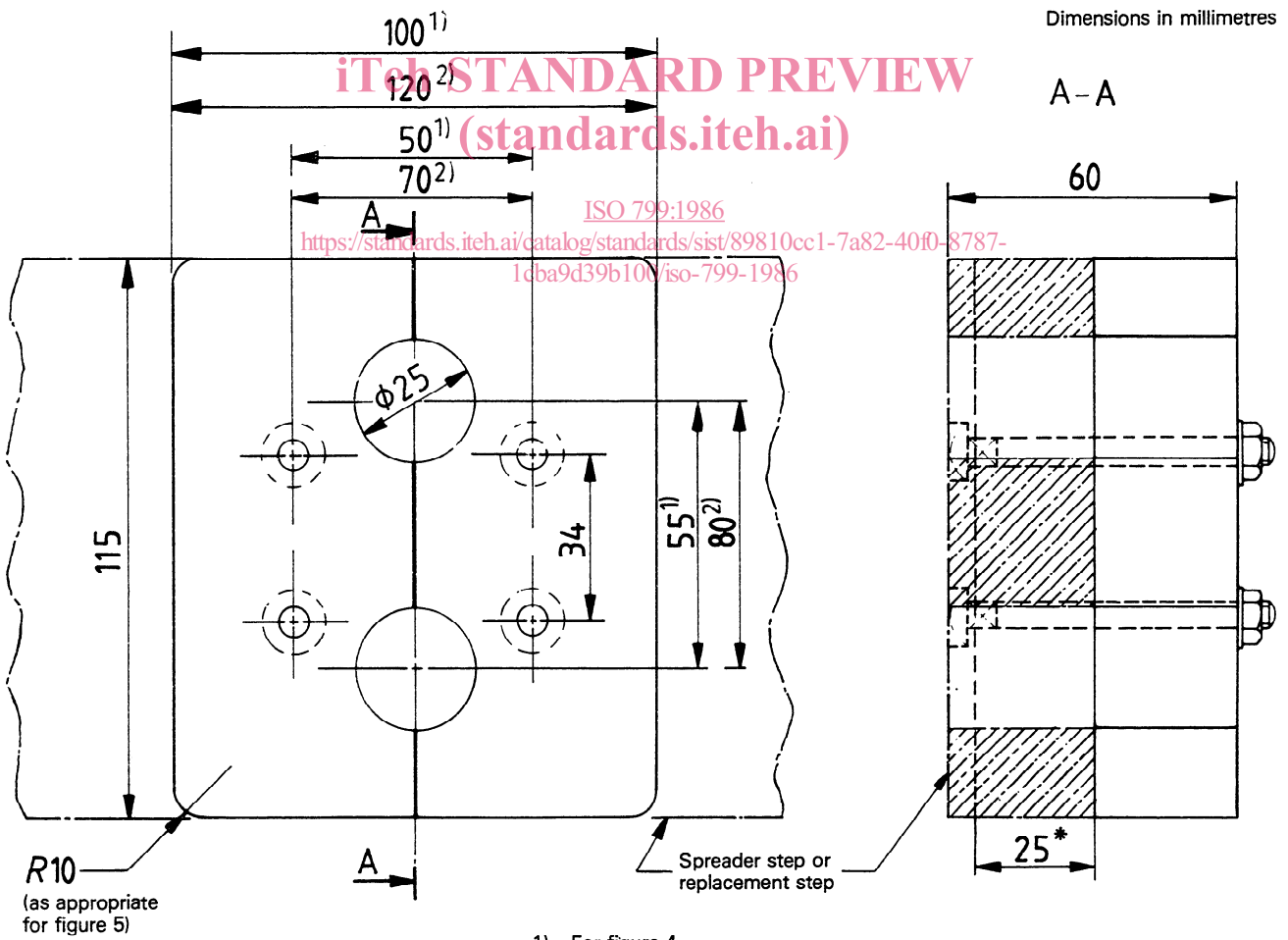


Figure 2 – Step



- 1) For figure 4.
- 2) For figures 5 and 6.

Figure 3 – Split distance piece

\* Excluding the depth of the grooving or non-slip coating (see 5.2).

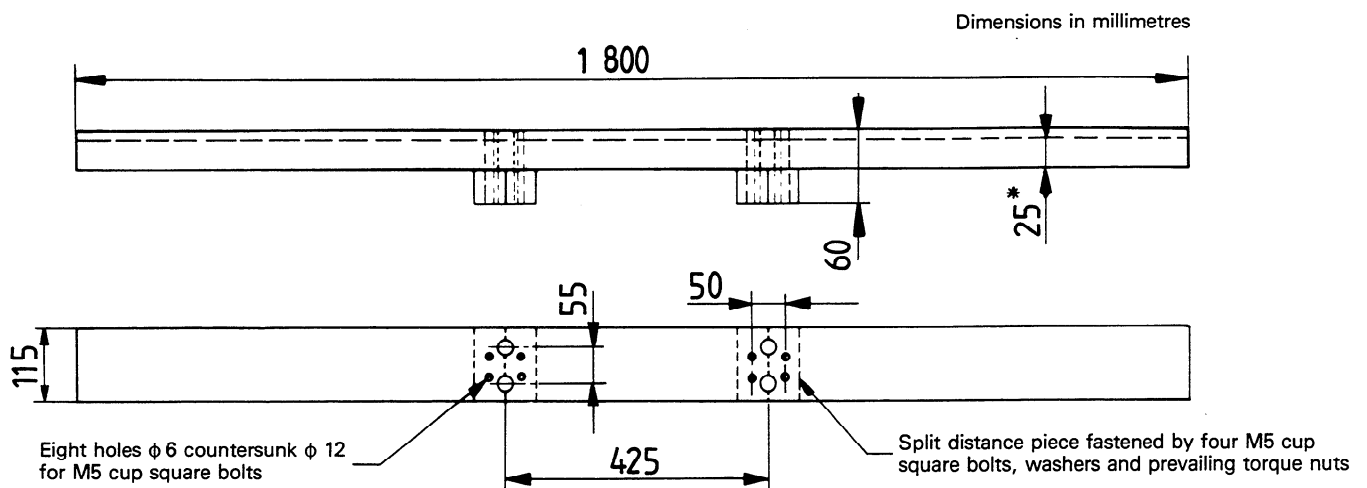
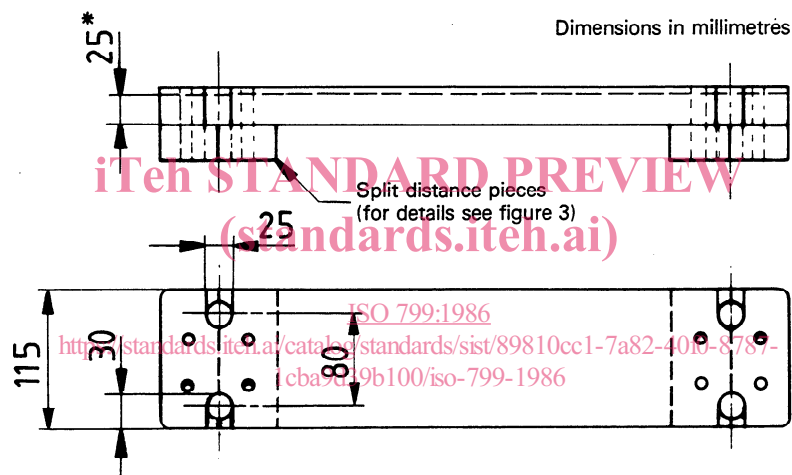
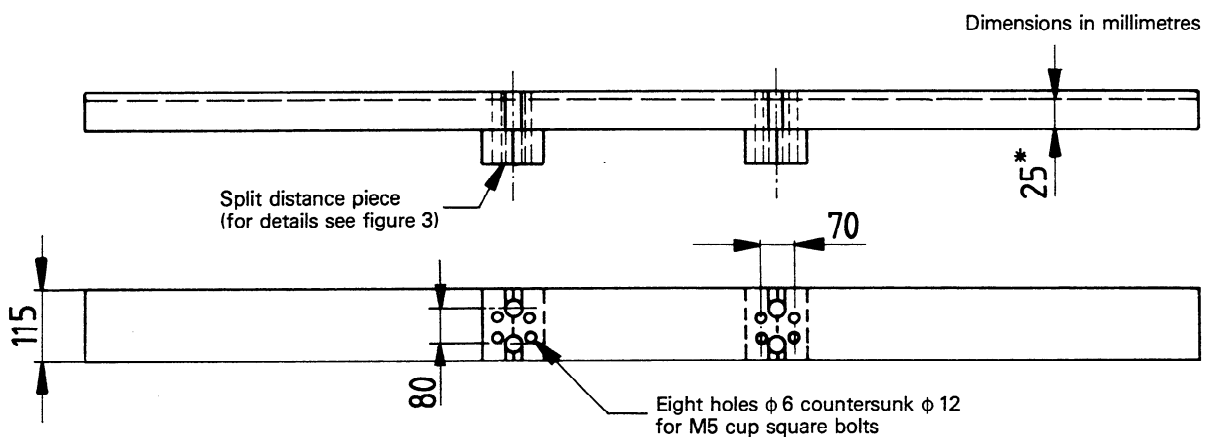


Figure 4 – Spreader step



NOTE – The other dimensions are as in figure 2.

Figure 5 – Replacement step



NOTE – The other dimensions are as in figure 4.

Figure 6 – Replacement spreader step

\* Excluding the depth of the grooving or non-slip coating (see 5.2).

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