

# INTERNATIONAL STANDARD

**ISO**  
**6934-4**

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## **Steel for the prestressing of concrete —**

### **Part 4: Strand**

*Acier pour armatures de précontrainte —  
Partie 4: Torons*



Reference number  
ISO 6934-4:1991(E)

## 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 6934-4 was prepared by Technical Committee ISO/TC 17, *Steel*, Sub-Committee SC 16, *Steels for the reinforcement and prestressing of concrete*.

ISO 6934 consists of the following parts, under the general title *Steel for the prestressing of concrete*:

- *Part 1: General requirements*
- *Part 2: Cold-drawn wire*
- *Part 3: Quenched and tempered wire*
- *Part 4: Strand*
- *Part 5: Hot-rolled steel bars with or without subsequent processing*

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## Steel for the prestressing of concrete —

### Part 4: Strand

#### 1 Scope

This part of ISO 6934 specifies requirements for high tensile steel strand which has been given a stress relieving heat treatment according to the general requirements specified in ISO 6934-1. The strand may contain either 2, 3, 7 or 19 individual wires.

#### 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 6934. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 6934 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6934-1:1991, *Steel for the prestressing of concrete — Part 1: General requirements*.

#### 3 Definitions

For the purposes of this part of ISO 6934, the definitions given in ISO 6934-1 and the following definition apply.

**3.1 compacted strand:** A strand which has been compressed (e.g. by cold working after stranding) and given a stress-relieving treatment before winding into coil form.

#### 4 Conditions of manufacture

##### 4.1 Steel

The strand shall be manufactured from high tensile steel wire in accordance with ISO 6934-1.

##### 4.2 Stress-relieving heat treatment

The strand shall be subjected to a low temperature heat treatment as a continuous linear process by uncoiling and running the strand through a suitable form of heating (see ISO 6934-1).

The strand shall be rewound into coils or onto reels having a core diameter which is sufficiently large to ensure that the strand shall be reasonably straight when uncoiled (see 8.2).

Strand forming operations and the stress relieving treatment shall ensure that the wires do not unravel when the strand is cut. However, if unravelled, it shall be possible to put them back into position without difficulty.

##### 4.3 Compacted strand

The 7-wire strand shall comply with 4.4 before drawing.

After drawing and stress-relieving treatment, the strand shall have a pitch of 14 to 18 times the nominal strand diameter.

##### 4.4 Welds

###### 4.4.1 2-wire and 3-wire strand

The wire from which the strand is fabricated shall not contain welds.