



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG, NEW DELHI 110002

व्यापक परिचालन मसौदा

हमारा संदर्भ : सीईडी 02:2/टी-30

11 जनवरी 2024

तकनीकी समिति : सीमेंट और कंक्रीट विषय समिति, सीईडी 02

प्राप्तकर्ता :

- 1 सिविल इंजीनियरिंग विभाग परिषद, सीईडीसी के सभी सदस्य
- 2 सीमेंट और कंक्रीट विषय समिति, सीईडी 02 के सभी सदस्य
- 3 सीईडी 02 उपसमिति एंव इसकी पैनल और कार्यदल के सभी सदस्य
- 4 रूचि रखने वाले अन्य निकाय।

महोदया/महोदय,

निम्नलिखित मसौदा संलग्न है:

प्रलेख संख्या	शीर्षक
सीईडी 02 (24628)WC	सीमेंट कंक्रीट से संबंधित शब्दों की शब्दावली: भाग 3 कंक्रीट सुदृढीकरण (पहला पुनरीक्षण) का भारतीय मानक मसौदा (ICS: 01.040.91)

कृपया इस मसौदे का अवलोकन करें और अपनी सम्मतियाँ यह बताते हुए भेजे कि यह मसौदा प्रकाशित हो तो इस पर अमल करने में, आपको व्यवसाय अथवा कारोबार में क्या कठिनाइयाँ आ सकती हैं।

सम्मतियाँ भेजने की अंतिम तिथि: **12 जनवरी 2024**

सम्मति यदि कोई हो तो कृपया अधोहस्ताक्षरी को उपरिलिखित पते पर संलग्न फॉर्मेट में भेजें या ced2@bis.gov.in पर ईमेल कर दें या सम्मितियाँ बीआईएस ई-गवर्नेंस पोर्टल, www.manakonline.in के माध्यम से ऑनलाइन भी भेजी जा सकती हैं।

यदि कोई सम्मति प्राप्त नहीं होती है अथवा सम्मति में केवल भाषा संबंधी त्रुटि हुई तो उपरोक्त प्रलेख को यथावत अंतिम रूप दे दिया जाएगा। यदि सम्मति तकनीकी प्रकृति की हुई तो विषय समिति के अध्यक्ष के परामर्श से अथवा उनकी इच्छा पर आगे की कार्यवाही के लिए विषय समिति को भेजे जाने के बाद प्रलेख को अंतिम रूप दे दिया जाएगा।

यह प्रलेख भारतीय मानक ब्यूरो की वेबसाइट www.bis.gov.in पर भी उपलब्ध है।

धन्यवाद।

भवदीय

ह/-

(अरुण कुमार एस.)

वै. 'ई' / निर्देशक और प्रमुख (सिविल इंजीनियरिंग)

संलग्न: उपरिलिखित



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG, NEW DELHI 110002

DRAFT IN
WIDE CIRCULATION

DOCUMENT DESPATCH ADVICE

TECHNICAL COMMITTEE:

Reference	Date
CED 02:2/T-30	11 January 2024

CEMENT AND CONCRETE SECTIONAL COMMITTEE, CED 02

ADDRESSED TO:

1. All Members of Civil Engineering Division Council, CEDC
2. All Members of Cement and Concrete Sectional Committee, CED 02
3. All Members of Subcommittees, Panels and Working Groups under CED 02
4. All other interested

Dear Madam/Sir,

Please find enclosed the following draft:

Doc. No.	Title
CED 02 (24628)WC	Draft Indian Standard Glossary of terms relating to Cement Concrete : Part 3 Concrete Reinforcement (<i>First Revision</i>) (ICS 01.040.91)

Kindly examine the draft and forward your views stating any difficulties which you are likely to experience in your business or profession, if this is finally adopted as National Standard.

Last Date for comments: 12 February 2024

Comments if any, may please be made in the attached format and mailed to the undersigned at the above address or preferably through e-mail to ced2@bis.gov.in. The comments may preferably be shared in the prescribed template through the Manak Online portal at www.manakonline.in. Alternatively, the comments may be sent through the attached format for consideration by the BIS' Sectional Committee for necessary action.

In case no comments are received or comments received are of editorial nature, you will kindly permit us to presume your approval for the above document as finalized. However, in case comments, technical in nature are received, then it may be finalized either in consultation with the Chairman, Sectional Committee or referred to the Sectional Committee for further necessary action if so desired by the Chairman, Sectional Committee.

The document is also hosted on BIS website www.bis.gov.in.

Thanking you,

Yours faithfully,

Sd/-

(Arun Kumar S.)

Sc. 'E'/Director and Head (Civil Engg.)

Encl: As above

BUREAU OF INDIAN STANDARDS**DRAFT FOR COMMENTS ONLY**

(Not to be reproduced without the permission of BIS or used as a Standard)

Draft Indian Standard**GLOSSARY OF TERMS RELATING TO CEMENT CONCRETE
PART 3 CONCRETE REINFORCEMENT
*(First Revision)***

Cement and Concrete
Sectional Committee, CED 02

Last date of Comments:
12 February 2024

FOREWORD

(Formal Clauses to be added later)

Cement concrete is one of the most versatile and extensively used building materials in all civil engineering constructions. There are a number of technical terms connected with the basic materials for concrete as well as the production and use of concrete which quite often require clarification to give precise meaning to the stipulations in the standard specifications, codes of practices and other technical documents. Based on this necessity and to standardize the various terms and definitions used in cement and concrete technology, this standard was published in 12 parts.

The other parts in the series are:

- | | |
|---------|---|
| Part 1 | Concrete aggregates |
| Part 2 | Materials (other than cement and aggregate) |
| Part 4 | Types of concrete |
| Part 5 | Formwork for concrete |
| Part 6 | Equipment, tools and plant |
| Part 7 | Mixing, laying, compaction, curing and other construction aspects |
| Part 8 | Properties of concrete |
| Part 9 | Structural aspects |
| Part 10 | Tests and testing apparatus |
| Part 11 | Prestressed concrete |
| Part 12 | Miscellaneous |

In addition to the above, two separate standards were brought out concerning terminology relating to hydraulic cement and pozzolanic materials. These standards are IS 4845: 1968 'Definitions and terminology relating to hydraulic cement' and IS 4305: 1967 'Glossary of terms relating to pozzolana'.

This standard (Part 3) was first published in 1972. In this revision the necessary changes required have been incorporated in the light of experience gained in its use and also to bring it in line with the latest development on the subject. The significant modifications made in this revision include:

- a) Definition of wires and strands which are used in prestressed concrete, and
- b) Reinforcement couplers.

In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country. This has been met by deriving assistance from the following publications:

- a) BS 6100-9 (2007) Building and civil engineering – Vocabulary – Part 9 – Work with concrete and plaster, British Standards Institution
- b) ASTM C125 (2021) Standard terminology relating to concrete and concrete aggregates, American Society for Testing and Materials (revision 21A)
- c) ACI No. SP-19 (1967) Cement and concrete terminology, American Concrete Institute.
- d) ACI 617 (1968) Recommended practice for concrete formwork, American Concrete Institute.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values (second revision)'. The number of significant places retained in the rounded off value should be periodically removed to create more space for the future falling blocks.

BUREAU OF INDIAN STANDARDS**DRAFT FOR COMMENTS ONLY**

(Not to be reproduced without the permission of BIS or used as a Standard)

Draft Indian Standard**GLOSSARY OF TERMS RELATING TO CEMENT CONCRETE
PART 3 CONCRETE REINFORCEMENT
(First Revision)**

Cement and Concrete
Sectional Committee, CED 02

Last date of Comments:
12 February 2024

1 SCOPE

This standard (Part 3) covers definitions of terms relating to concrete reinforcement.

2 REFERENCES

The Indian Standards listed below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

<i>IS No.</i>	<i>Title</i>
IS 16651:2017	High strength deformed stainless steel bars and wires for concrete reinforcement — Specification
IS 2090: 1983	Specification for high tensile steel bars used in prestressed concrete (<i>first revision</i>)
IS 6003: 2010	Indented wire for prestressed concrete — Specification
IS 6006: 2014	Uncoated stress relieved strand for prestressed concrete — Specification (<i>second revision</i>)
IS 16712:2014	Reinforcement couplers for mechanical splices of bars in concrete — Specification

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

3.1 Auxiliary Reinforcement – In a prestressed member, any reinforcement in addition to the reinforcements participating in the prestressing function.

3.2 Average Bond Stress – The force in a bar divided by the product of its perimeter and its embedded length.

3.3 Axle Steel – Steel from carbon-steel axles for railway carriage or automobiles.

3.4 Axle Steel Reinforcement – Plain or deformed reinforcing bars rolled from axle steel.

3.5 Band – Small bars or wire encircling the main reinforcement in a member to form a peripheral tie.

3.6 Band Iron – Thin metal strap used as form tie, hanger, etc.

3.7 Bar – A metal member used to reinforce concrete.

3.8 Bar Bender – A tradesman who cuts and bends steel reinforcement; or a machine for bending reinforcement.

3.9 Bar Chair – A rigid device used to support and/or hold reinforcing bars in proper position to prevent displacement before or during concreting.

3.10 Bar, Deformed – A reinforcing bar with manufactured surface deformations which provide a locking anchorage with surrounding concrete.

NOTE — IS 1139 :1966 and IS 1786 : 1966 define the deformed bar as below:

Deformed Bar – A bar of steel provided with lugs, ribs or deformations on the surface of the bar to minimize the slippage of the bar in concrete, and for which the bond strength calculated from the load at a measured slip of 0.025 mm in accordance with IS 2770 (Part 1) : 1967 exceeds that of a plain round bar of the same nominal size by 40 percent or more.

3.10.1 Nominal Size of Deformed Bar – the nominal size of a deformed bar is equivalent to the diameter or side of a plain bar having the same weight per metre run as the deformed bar.

3.11 Bar Mat – An assembly of steel reinforcement composed of two or more layers of bars placed at angles to each other and secured together by welding or ties.

3.12 Bar Support – See 3.9.

3.13 Bending Schedule – A list of reinforcement prepared by the designer or detailer of a reinforced concrete structure showing the shapes and dimensions of every bar and the number of bars required.

3.14 Bent Bar – Longitudinal reinforcement bent to pass from one face to the other of a member, to use steel efficiently for resistance of moment and diagonal tension, or for anchorage of the bar.

3.15 Billet Steel – Steel, either reduced directly from ingots or continuously cast, made from properly identified heats of open-hearth, basic oxygen, or electric furnace steel, or lots of acids Bessemer steel and conforming to specified limits on chemical composition.

3.16 Bond Adhesion and grip of concrete or mortar to reinforcement or to other surfaces against which it is placed, including friction due to shrinkage and longitudinal shear in the concrete engaged by the bar deformations; the adhesion of cement paste to aggregate; adherence between plaster coats or between plaster and a substrate produced by adhesive or cohesive properties of plaster or supplemental materials; also in United Kingdom the arrangement of units in masonry and brickwork so that vertical joints are discontinuous.

3.17 Bond Length – The length of grip of a reinforcing bar.

3.18 Bond Strength – Resistance to separation of mortar and concrete from reinforcing steel and other materials with which it is in contact; a collective expression for all forces such as adhesion, friction due to shrinkage, and longitudinal shear in the concrete engaged by the bar deformations that resist separation.

3.19 Bond Stress – The force of adhesion per unit area of contact between two bonded surfaces, such as concrete and reinforcing steel or any other material, such as foundation rock; shear stress at the surface of a reinforcing bar, preventing relative movement between the bar and the surrounding concrete.

3.20 Bundle – Two or more coils or a number of lengths properly bound together.

3.21 Bundled Bars – A group of parallel reinforcing bars (not exceeding four) in contact with each other and enclosed in stirrups or ties and used as a reinforcing element.

3.22 Cage – A rigid assembly of reinforcement ready for placing in position.

3.23 Chair – See 3.9.

3.24 Compression Reinforcement – Reinforcement designed to carry compressive stresses.

3.25 Contact Splice – A means of connecting reinforcing bars in which the bars are lapped and are in direct contact.

3.26 Corner Reinforcement – Plaster reinforcement used at re-entrant or internal angles to provide continuity between two intersecting plaster planes; also reinforcement provided in reinforced concrete slab for torsion at unrestrained corners.

3.27 Corrosion – Disintegration or deterioration of concrete or reinforcement by electrolysis or by chemical attack.

3.28 Coupler

- a) A device for connecting reinforcing bars or prestressing tendons end to end, also known as end connector or lock splice.
- b) A device for locking together the component parts of a tubular metal scaffold (also known as a clamp).

3.29 Cover Block – Device which maintains reinforcement bars in proper position and at proper distance from each other and from the forms before and during concreting; or a device which keeps wall forms at a given distance apart before and during concreting.

3.30 Crack-Control Reinforcement – Reinforcement in concrete construction designed to prevent opening of cracks, but often effective in limiting them to uniformly distributed small cracks.

3.31 Crimped Wire – Wire which is deformed into a curve which approximates a sine curve as a means of increasing the capacity of the wire to bond to the concrete; also welded wire fabric crimped to provide an integral chair.

3.32 Cold Twisted Deformed Bar – A bar of steel produced by cold twisting a hot rolled bar and which has lugs, ribs or deformations on its surface in accordance with definitions for deformed bars in **3.10**.

3.33 Deformed Bar – See **3.10**.

3.34 Deformed Tie Bar – Deformed bar used to hold two slab elements in close contact.

3.35 Diamond Mesh – See **3.41**.

3.36 Edge-Bar Reinforcement – Tension steel sometimes used to strengthen otherwise inadequate edges in a slab, without resorting to edge thickening.

3.37 Effective Area of Reinforcement – The area obtained by multiplying the normal cross-sectional area of reinforcement by the cosine of the angle between the direction of the reinforcement and the direction in which the effectiveness is required.

3.38 Effective Area of Reinforcement in Diagonal Bends – The area obtained by multiplying the normal cross-sectional area of the reinforcement by the cosine of the angle at which the band is inclined to the direction for which its effectiveness is considered.

3.39 Effective Reinforcement – Reinforcement of a section assumed to be active in resisting the applied stresses.

3.40 Elastic Limit – The limit of stress beyond which the strain is not wholly recoverable.

3.41 Expanded Metal – A metal network, often used as reinforcement in concrete construction, formed by suitably stamping or cutting sheet metal and stretching it to form open meshes, usually of diamond shape.

3.42 Field Bending – Bending of reinforcing bars on the job rather than in a fabricating shop.

3.43 Hairpin – A light hairpin shaped reinforcing bar used for shear reinforcement in beams, tie reinforcement in columns, or prefabricated column shear heads.

3.44 Heavy-edge Reinforcement – Wire fabric reinforcement, for highway pavement slabs, having one to four edge wires heavier than the other longitudinal wires.

3.45 High Bond Bar – See 3.18.

3.46 High Strength Steel – Steel with a high yield point; in the case of reinforcing bars generally greater than 42 kgf/mm².

3.47 Hook – A bend in the end of a reinforcing bar.

3.48 Hooked Bar – A reinforcing bar with the end bent into a hook to provide anchorage.

3.49 Lap – The length by which one bar or sheet of fabric reinforcement overlaps another.

3.50 Lapping – The overlapping of reinforcing steel bars, welded wire fabric, or expanded metal so that there may be continuity of tensile or compressive stress in the

reinforcing when the concrete member is subjected to flexural or tensile or compressive loading.

3.51 Lap Splice – A connection of reinforcing steel made by lapping the ends of the bars.

3.52 Lateral Reinforcement – Usually applied to the transverse hoops, links, or helical reinforcement in columns.

3.53 Load Transfer Assembly – Most commonly, the unit (basket or plate) designed to support or link dowel bars during concreting operations so as to hold them in place, in the desired alignment.

3.54 Longitudinal Bar – Reinforcement essentially parallel to the long axis of a concrete member or pavement.

3.55 Longitudinal Reinforcement – See 3.54.

3.56 Main Bar – Steel reinforcement designed to resist stresses resulting from design loads and moments, as opposed to reinforcement intended to resist secondary stresses. Also, this is reinforcement that distributes main structural forces.

3.57 Main Reinforcement – See 3.56.

3.58 Mat – See 3.11.

3.59 Mechanical Bond – the bond between concrete and reinforcing bars, attributed to keying or interlocking action other than adhesion.

3.60 Mesh – A series of longitudinal and transverse wires arranged substantially at right angles to each other and welded together at all points of intersection.

3.61 Mesh Reinforcement – Welded-wire fabric in either sheets or roils, used to reinforce concrete.

3.62 Mill Scale – the oxide layer formed during the hot rolling of metals, such as that formed on hot-rolled reinforcing bars.

3.63 Negative Reinforcement – Steel reinforcement for negative moment.

3.64 Non-prestressed Reinforcement – Ordinary or high tensile strength reinforcing steel, as used in prestressed concrete construction, and subjected to no prestressing nor post-tensioning.

3.65 Offset Bend – Any bend in a reinforcing bar that displaces the centre line of a section of the bar to a position parallel to the original bar, in which the displacement is relatively small; commonly applied to column verticals.

3.66 Pencil Rod – Plain metal rod of about 6 mm diameter.

3.67 Plain Bar – A reinforcing bar without surface deformations, or one having deformations that do not conform to the applicable requirements.

3.68 Positive Reinforcement – Reinforcement for positive moment.

3.69 Proof Stress – The stress *which is just' sufficient to produce, under load, a non-proportional elongation equal to a specified percentage of the original gauge length; conventionally the specified percentage is fixed at 0.1 or 0.2 percent.

3.70 Rail Steel Reinforcement A – Reinforcing bars hot-rolled from standard T-section rails.

3.71 Reinforcement – Metal, bars, wires, or other slender members which are embedded as percentage of concrete in such a manner that the metal and the concrete act together in resisting forces.

3.72 Reinforcement, Cold-Drawn Wire – Steel wire made from rods that have been hot rolled from billets, cold-drawn through a die; for concrete reinforcement of small diameter, such as in sizes not less than 2 mm nor greater than 16 mm.

3.73 Reinforcement, Cold-Worked Steel – Steel bars or wires which have been rolled, twisted, or drawn at normal. ambient temperatures.

3.74 Reinforcement Displacement – Movement of reinforcing steel from its specified position in the forms.

3.75 Reinforcement, Distribution Bar – Small-diameter bars, usually at right angles to the main reinforcement, intended to spread a concentrated load on a slab and to prevent cracking.

3.76 Reinforcement, Dowel-Bar – Short bars, extending approximately equally into two abutting pieces of concrete, to increase the strength of the joint.

3.77 Reinforcement, Expanded Metal Fabric – A form of reinforcement made by slitting a rolled steel sheet and then stretching it to form a diamond-shaped mesh.

3.78 Reinforcement, Four-Way – A system of reinforcement in flat slab construction comprising bands of bars parallel to two adjacent edges and also to both diagonals of a rectangular slab.

3.79 Reinforcement, Helical – Steel reinforcement forming a helix.

3.88 Reinforcement, High Tensile – Concrete reinforcing bars having a minimum yield strength or 0.2 percent proof stress above a specified value, such as 42 or 52 kgf/mm².

3.81 Reinforcement, Hoop – Binders in the form of rings (other than helical) round the main reinforcement in columns and piles.

3.82 Reinforcement, Lateral – Usually applied to the transverse hoops, links, or helical reinforcement in columns.

3.83 Reinforcement, Mesh – An arrangement of bars or wire normally in two directions at right angles, tied or welded at the intersections, or interwoven (see also **3.78**).

3.84 Reinforcement Ratio – Ratio of the effective area of the reinforcement to the effective area of the concrete at any section of a structural member.

3.85 Reinforcement, Secondary – Reinforcement other than main reinforcement.

3.86 Reinforcement, Spiral – Coiled wire or bar held to a definite pitch or spacing.

3.87 Reinforcement, Transverse

- a) Links or helical reinforcement for columns.
- b) Reinforcement at right angles to the main reinforcement,

3.88 Reinforcement, Twin-Twisted Bar – Two bars of the same nominal diameter twisted together.

3.89 Reinforcement, Two-Way – Reinforcement arranged in bands of bars at right angles to each other.

3.90 Reinforcement, Welded – Reinforcement joined together by welding.

3.91 Relaxation (of Steel) – Decrease in stress in steel as a result of creep within the steel under prolonged strain; decrease in stress in steel as a result of decreased strain of the steel, such as results from shrinkage and creep of the concrete in a prestressed concrete unit.

3.92 Shear Reinforcement – Reinforcement designed to resist shear or diagonal tension stresses; dowels are not considered to be shear reinforcement.

3.93 Shrinkage Reinforcement – Reinforcement designed to resist shrinkage stresses in concrete.

3.94 Slab Spacer – Bar support and spacer. for slab reinforcement.

3.95 Spacer – Device which maintains reinforcement in proper position, or wall forms at a given distance apart before and during concreting.

3.96 Spiral Reinforcement – See 3.86.

3.97 Splice – Connection of one reinforcing bar to another by overlapping, welding, mechanical end connectors, or other means.

3.98 Standard Hook – A hook at the end of a reinforcing bar made in accordance with a standard.

3.99 Stirrup – A reinforcing device to resist shear and diagonal tension stresses in a beam, typically a steel bar bent into a U-shape and installed perpendicular to or at an angle to the longitudinal reinforcement, and properly anchored.

3.100 Strand – A prestressing tendon composed of a number of wires most of which are twisted about a centre wire or core.

3.101 Stress Corrosion – Corrosion of a metal accelerated by stress.

3.102 Temperature Reinforcement – Reinforcement designed to carry stresses resulting from temperature changes; also the minimum reinforcement for areas of members which are not subjected to primary stresses or necessarily to temperature stresses.

3.103 Tensile Strengths – The maximum load reached in a tensile test divided by the original cross-sectional area of the gauge length portion of the test piece. Also termed as maximum stress, or ultimate tensile stress.

3.104 Tension Reinforcement – Reinforcement designed to carry tensile stresses such as those in the bottom of a simple beam.

3.105 Tie – Closed loop of reinforcing bars encircling the longitudinal steel in columns; also a tensile unit which holds concrete formwork secure against lateral pressure of unhardened concrete.

3.106 Tie Bar – A deformed bar embedded in a concrete construction at a joint and designed to hold abutting edges together, but not designed for direct load transfer as a dowel.

3.107 Transverse Reinforcement – Reinforcement at right angles to the principal axis of a member.

3.108 Twin-Twisted Reinforcement – See 3.88.

3.109 Web Bar – Reinforcement placed in a concrete member to resist shear and diagonal tension.

3.110 Web Reinforcement – See 3.109.

3.111 Welded-Butt Splice – A reinforcing bar splice made by welding the butted ends.

3.112 Welded-Wire Fabric – A series of longitudinal and transverse wires arranged substantially at right angles to each other and welded together at all points of intersection.

3.113 Welded-Wire Fabric Reinforcement – Welded-wire fabric in either sheets or rolls, used to reinforce concrete.

3.114 Wire, Cold-Drawn – Wire made from the rods hot rolled from billets and then cold-drawn through dies.

3.115 Wire Mesh – See 3.112.

3.116 Woven-Wire Fabric – A prefabricated steel reinforcement composed of cold-drawn steel wires mechanically twisted together to form hexagonally shaped openings.

3.117 Woven-Wire Reinforcement – See 3.112.

3.118 Yield Point – That point during increasing stress when the proportion of stress to strain becomes substantially less than it has been at smaller values of stress.

3.119 Yield Strength – The stress, less than the maximum attainable stress, at which the ratio of stress to strain has dropped well below its value at low stress, or at which a material exhibits a specified limiting deviation from the usual proportionality of stress to strain.

3.120 Yield Stress – Stress (that is, load per unit cross-sectional area) at which elongation first occurs in the test-piece without increasing the load during tensile test. In the case of steels with no such definite yield point, the yield stress is the stress under the prescribed testing conditions at which the observed increase in the gauge length is 1/200 of the gauge length w-hen the rate at which the load is applied is not more than 0.5 kg/mm²/s when approaching the yield stress.

3.121 Two-Wire Strand – Any length of finished material which comprises two wires spun together in helical form.

3.122 Three-Wire Strand – Any length of finished material which comprises three wires spun together in helical form.

3.123 Seven-Wire Strand – Any length of finished material which comprises six wires spun together in helical form around a central wire.

3.124 Reinforcement Chair – Device to support the top layer of reinforcement for a concrete slab.

3.125 Reinforcement, Corner – Metal reinforcement for plaster reentrant corners to provide continuity between two intersecting planes; or concrete reinforcement used to wall intersections or near corners of square or rectangular openings in walls, slabs, or beams.

3.126 Reinforcement, Crack-Control – Reinforcement concrete construction designed to minimize opening of cracks, often effective in limiting them to uniformly distributed small cracks.

3.127 Reinforcement Coupler — Coupling sleeve or threaded coupler for mechanical splices of reinforcement bars for the purpose of providing transfer of axial tensile force and/or compressive force from one bar to the other, where,

- a) coupling sleeve is a device fitting over the ends of two reinforcing bars, and
- b) threaded coupler is a threaded device for joining reinforcing bars with matching threads.

3.128 Two Way Reinforcement – Reinforcement for a concrete slab consisting of bands or reinforcing bars at right angles to each other.

3.129 Indented Wire – Deformed wire that has indentations.

3.130 High Tensile Steel – Alloy steel having a tensile strength of not less than 980 N/mm².

3.131 Bar Hook – End of a reinforcing bar bent through 180 degree to form an anchorage.

3.132 Batch – Any quantity of bars/wires of same size and strength grade and processed from an identical heat or cast, whether in coils or bundles presented for examination and test at one time.

3.133 Bars, Bundled – A group of not more than four parallel reinforcing bars in contact with each other, usually tied together.

3.134 Binding Wire – Wire used for tying reinforcing bars when fixing reinforcement.

3.135 Cold Drawn Wire – Wire that is cold drawn from steel to increase its tensile strength.

3.136 Coil – One continuous length of wire in the form of a coil.

3.137 Deformed Wire – Wire with surface characteristics to increase bond strength.

3.138 Hard Drawn Wire – Wire that has been drawn through die at normal temperature.
