International Handball Federation

XIII. Technical Regulations b) Goal Regulations

Edition: 21 December 2025

International Handball Federation

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Appendices

Article 1

1. General Principles

These regulations establish the mandatory criteria set forth by the IHF for handball goals. Compliance with these criteria is required for a handball goal to be eligible for the IHF Seal of Approval.

Article 2

2. Requirements for Handball Goals

2.1. Standard References

Test	Referenced Norm
Mesh Breaking Strength	EN ISO 1806:2002 Fishing nets — Determination of mesh breaking force of netting
Rope Breaking Forces	ISO 2307:2019 Fibre ropes — Determination of certain physical and mechanical properties
Frame Entrapment	EN 913:2018+A1:2021 Gymnastic equipment. General safety requirements and test methods
Goal Labelling	EN 749:2004 Playing field equipment - Handball goals - Functional and safety requirements, test methods

2.2. Goal Requirements

Performance Property	IHF Goal Requirements	
Frame Dimensions	Goal Width	3,000±3mm
	Goal Height	2,000±3mm
	Crossbar and Post Depth	80+0–1mm
	Crossbar and Post Width	80+0–1mm
Frame Marking	Upper Post Corner Banding Width	280±3mm
	Intermediate Crossbar and Post Bands	200±3mm
	Post Bottom Band	200±10mm
Net Dimensions	Width	≥3,100mm
	Height	≥2,100mm
	Top Depth	≥800mm
	Bottom Depth	≥1,000mm
	Mesh Width – Outdoor Handball	≤100mm
	Mesh Width – Indoor Handball	≤100mm
	Yarn Diameter	≥2.00mm
Mesh Breaking Strength Classification	≥1,800N	Class A
	≥1,080 <1,800 N	Class B
	≥792 <1,080 N	Class C
Rope Breaking Force Classification	≥7,000 N	Class A
	≥3,000 <7,000 N	Class B
Frame Strength	<6.00mm inelastic vertical deformation	
	Absence of any visible fracture or damage to frame or components thereof	
Frame Stability	No toppling	
Frame Entrapment	No areas which pose risk of head, neck, or finger entrapment	
Exposed Edges	Frame Member Radii	≥3.00mm
	Crossbar and Post Edge Radius	4.00±1mm
Goal Labelling	Clear indelible labelling presenting all required content	

Article 3

3. IHF Seal of Approval

3.1. General Rules

1. The IHF reserves the right to revoke the Seal of Approval at any time during the certification period if any technical defects or non-compliance with the approved standards are identified in the certified product.
2. If the IHF Goal Regulations are changed, improved or upgraded at any point in time, the certified goal will lose its certification if the product is not re-tested to ensure that it meets the new criteria. The IHF has the right to amend the IHF Goal Regulations and the technical specifications at any time. The manufacturer must have the goals re-tested before the end of the contractual year during which the IHF Goal Regulations and technical specifications have been approved and enforced and prior to the renewal of the next contractual year.
3. A list of goal manufacturers with an IHF Seal of Approval is kept by the IHF Head Office and is available free of charge.

3.2. Application Procedure

1. The IHF Seal of Approval may be granted to any handball goal manufacturer upon submission of an application, provided the manufacturer satisfies all technical and financial criteria stipulated by the IHF.
2. The manufacturer shall prove to be a producer of handball goals and cannot be a licence company. Alongside the contract, an official statement from the manufacturer on this matter will be required.
3. The applicant shall have an international sales/marketing/R&D programme and shall inform the IHF of its experience in the field.
4. The applicant must agree that the IHF will not be liable for any damages that occur to a third party caused by the materials provided by the applicant. The applicant must have insurance to cover third party liability.
5. The applicant shall contact Sports Labs Ltd, the designated IHF testing laboratory at info@sportslabs.co.uk with details of the goal product the applicant seeks to have approved. The applicant will be provided by Sports Labs Ltd with a brief sample form and quotation for the testing required. The applicant is responsible for covering all test-related costs.
6. Furthermore, the applicant shall submit the completed application form in Appendix 1 (Test Form) to the IHF and Sports Labs Ltd.
7. The applicant shall ship their product to the testing laboratory ensuring that it is of sufficient size and well packed to avoid any damage during transport, include a copy of the applicant's

completed sample form with the shipment. Once received, the laboratory will confirm receipt and begin the process of conducting the required tests. The applicant has the option to have the product tested on site. This option allows the laboratory staff to come to the applicant's selected location and conduct the required tests directly. The applicant should indicate their preference for on-site testing in the sample form and coordinate with the laboratory to schedule the testing process.

8. Upon completion of testing, the applicant will receive a detailed results report presenting the products' performance against the IHF requirements. Where the product successfully met all requirements set for receiving the IHF Seal of Approval, the laboratory shall submit the report to the IHF. The IHF, after reviewing the results report and the application form in Appendix 1 (Test Form), will then decide on granting the IHF Seal of Approval.
9. Following the signing of the contract and payment of the licence fee, the applicant's product will receive the IHF Seal of Approval.

3.3. Identification of IHF Approved Goals

Positioned on a suitable location on the goal frame, IHF approved goals shall be clearly labelled, in colour, with the official IHF logo and the designation 'IHF Approved Goal'. Label dimensions should be approximately 60x60mm and should not be placed on the forward-facing portion of the goalposts or crossbar.

3.4. Use of IHF Approved Goals

1. IHF approved goals are certified for a period of 4 years provided no material or design changes are made to the product within this period. The manufacturer shall apply for retesting after the fourth year in order to receive the renewed seal of approval.
2. Only goals with the IHF Seal of Approval may be used at official IHF competitions.

Article 4

4. Licence Fee

1. On payment of the licence fee, the manufacturer gains the right to affix the IHF Seal of Approval mentioned in Article 3.3 to goals of the tested and approved type. The licence takes the form of a contract drawn up by the IHF Head Office.
2. The licence fee shall be paid in Swiss francs on conclusion of the contract, and before the certificate is delivered by the IHF.

Appendix 1 – Test Form

TEST FORM FOR HANDBALL GOALS

Manufacturer's name: ……

Location of the factory: ……

Contact person of the sales director:

……

Protocol of installation: ……

ISO norms available: ……

Sustainable policy: ……

Recyclability terms: ……

Goal type: Type 1 ☐ Permanent-stationary

Type 2 ☐ Freestanding-mobile

Warranty terms in years: ……

Name of every goal model requesting IHF approval: ……

……

List of goal components: ……

……

General remarks: ……

……

…… ……

Place / Date Name / Signature of Examiner

Appendix 2 – Standard Contract

STANDARD CONTRACT
- GOALS -

C O N T R A C T

between the

INTERNATIONAL HANDBALL FEDERATION, hereinafter named 'IHF',

with its Head Office at
Peter Merian-Strasse 23
P.O. Box
CH-4002 Basel
Switzerland

and represented by

……

and

.....

hereinafter named 'Goal Manufacturer'

with its headquarters in

.....
.....
……

and represented by

……

§ 1: Rights

The IHF shall grant the Goal Manufacturer the IHF Seal of Approval for handball goals and, in accordance with the IHF Goal Regulations, the non-exclusive right to use the IHF Seal of Approval and imprint the goals it produces as mentioned under § 3 with the clear coloured imprint, containing the IHF logo and the designation 'IHF Approved Goal'.

The Goal Manufacturer shall have the right to receive a certificate for each model of goal certified by IHF.

§ 2: Obligations

1. The Goal Manufacturer shall agree that the IHF will not be liable for any damages that occur to a third party caused by the materials provided by the Goal Manufacturer. The applicant must have insurance to cover third party liability.
2. The Goal Manufacturer shall never misuse the IHF goal certification or any other IHF trademark/logo.
3. The Goal Manufacturer shall declare any installation of its IHF certified goal and shall be able to provide a list to the IHF upon request.
4. The Goal Manufacturer shall notify the IHF in confidence of the last contractual year's production and sales figures for the goal model as mentioned under § 3 of the contract. The IHF is obliged not to make these figures known to any third parties except the members of the IHF Executive Committee.
5. The IHF Goal Regulations form an integral part of this contract and shall be recognised by the Goal Manufacturer as authoritative.

§ 3: Specification of goal types

The rights listed under § 1 shall be granted only to the following goal model(s):

.....

Should the Goal Manufacturer require the rights listed under § 1 for further products, an additional contract shall be necessary.

§ 4: Licence fee

According to a decision of the IHF Executive Committee the licence fee has been set at

CHF …… (Swiss francs)

The licence fee for the contractual year(s), from …… to ……, is payable upon the contract's conclusion and shall be paid into the following IHF bank account:

Bank: Bank CIC (Schweiz) AG, 4001 Basel
IBAN: CH15 0871 0043 4600 5200 1
SIC / Clearing number: 08710
SWIFT-BIC: CIALCHBB
Account holder: International Handball Federation

The certificate of the seal of approval will be delivered only after such payment has been received

by the IHF. Then the Goal Manufacturer gains the right to affix the official IHF Seal of Approval to goals of the tested and approved model(s).

§ 5: IHF logo

The IHF logo shall be provided to the Goal Manufacturer at the time the contract comes into force.

§ 6: Duration of contract

This contract shall be valid for up to four years in accordance with the IHF Goal Regulations.

The Goal Manufacturer, in order to renew its certification, shall send a new request to the IHF along with the payment for the new contractual year. The Goal Manufacturer does not have to provide a new report unless the last report is older than four years or the technical requirements of the IHF have changed.

§ 7: Termination of contract

The contract shall terminate at the end of the contractual year(s).

1. The contract can also be terminated prior to the end of the certification for the following reasons:
   a) in case of misuse of the IHF Seal of approval or any other IHF trademark/logo, or
   b) in case the Goal Manufacturer culpably breaches its obligations under this contract (including failing to maintain the good quality of the certified goal) and such breach is not being remedied within a reasonable time after receipt of the IHF's written notice claiming such breach, or
   c) in case the reputation of the Goal Manufacturer is in a way significantly and publicly damaged, giving the IHF comprehensible reason to believe that this may threaten its reputation as well.

§ 8: IHF's duty to provide information

The IHF shall display all goals mentioned in this contract in the section reserved for IHF Seals of Approval on the IHF official website's marketing page.

§ 9: Miscellaneous

1. The Goal Manufacturer may not assign or transfer this contract nor any rights or obligations hereunder without the prior written consent of the IHF.
2. This contract is written in English. English shall always be the language used to interpret the contract.
3. This contract shall be governed by and interpreted in accordance with Swiss law.
4. This contract shall come into effect immediately upon signing by the two parties.

§ 10: Disputes

In case of any disputes arising out of or in connection with this contract, the parties shall exert best efforts and strive for an amicable settlement. If an agreement cannot be reached, any dispute concerning the existence of the contract, its validity, interpretation, or performance shall be referred to and resolved by arbitration, to the exclusion of ordinary courts, under the Procedural Rules of the IHCA Code. These Rules are deemed to be incorporated by reference into this clause. The IHCA shall act as an ordinary court of arbitration.

The place of jurisdiction shall be Switzerland.

Place and date .....

INTERNATIONAL HANDBALL FEDERATION

Signature .....
Name .....
Function .....

Goal Manufacturer

Signature .....
Name .....
Function .....

Appendix 3 – Goal Classification

Handball goals shall be classified as either permanent-stationary (Type 1) or freestanding-mobile (Type 2) products defined as below:

Type 1: Any handball goal designed such that the goal frame is supported in an upright position through attachment to or insertion in permanent and stationary foundations. These may be bolted or socketed connections. See Figure 1.

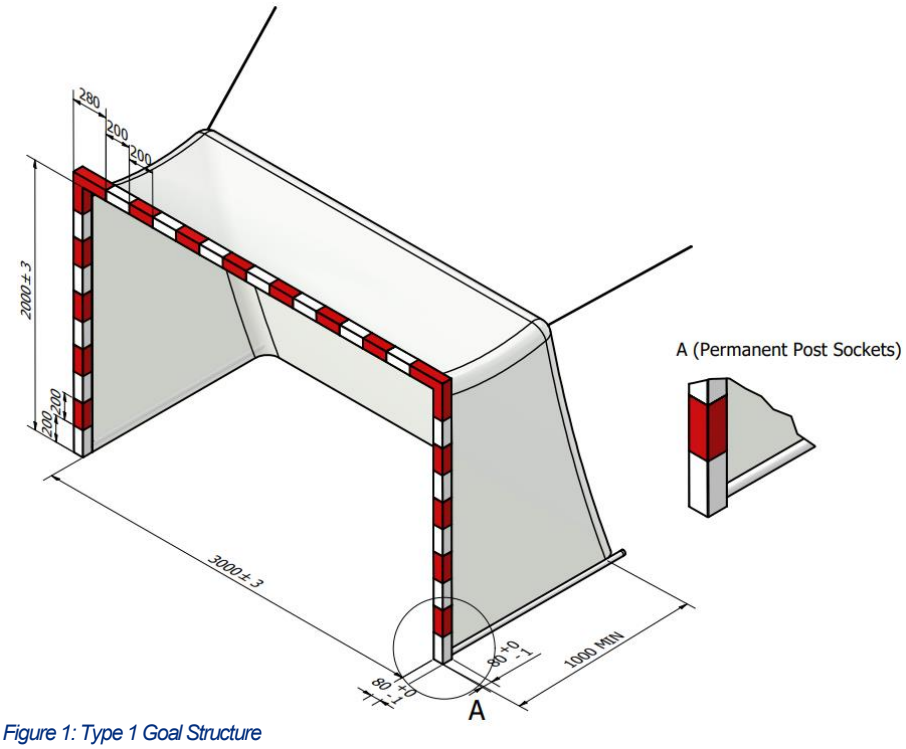

Figure 1: Type 1 Goal Structure

Type 2: Any handball goal designed such that the goal frame is self-supporting and does not utilise a frame socket or frame-bolted system except for anti-tilting fixings used behind the goal posts. Goals of this type must utilise a counterweight system which shall be mounted during testing. See Figure 2.

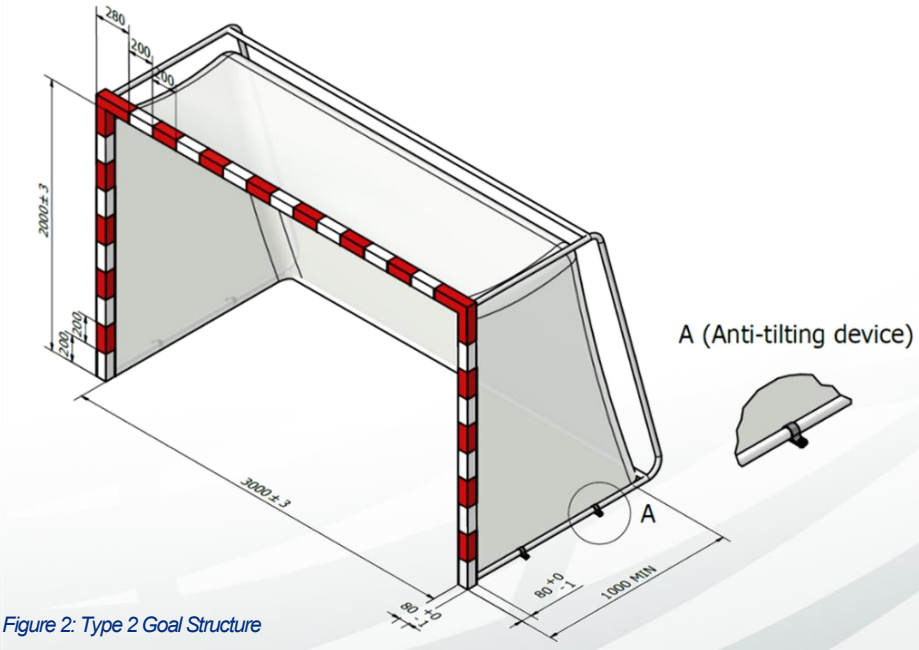

Figure 2: Type 2 Goal Structure

Appendix 4 – Samples and Product Documentation

Samples

Type 1 and Type 2 goals shall be supplied in their “as sold” condition and design. One full sample of each goal product to be certified must be submitted to Sports Labs Ltd for assessments. Products may be assessed in an off-site location through prior agreement with the test house.

All samples must be supplied with all components forming the make-up of the goal product in its installed form including but not limited to any fasteners, anchoring connections, anti-rebound netting or other components which may be sold as part of the goal product. Where the manufacturer provides foundations or the materials to form foundations as part of the product sale, these must be provided with the goal for assessment.

Where the goal may be provided in several configurations, i.e., with alternate netting, or rear net support bars, all components required to make up the variations of the goal may be provided for testing. The IHF approval shall only be valid for the configurations in which the product was tested.

Product Documentation

All products submitted for approval shall be supplied with the following documentation:

1. List of components – A list of components included for testing, this should include where applicable, any unique identifiers such as serial numbers or part codes.
2. Assembly, installation, and maintenance instructions.
   a) For Type 1 goals, these should include information on the foundation requirements.
   b) For Type 2 goals, these should include instructions for safe transportation and storage of goals where applicable.

Appendix 5 – Frame Dimensions

Principle

Dimensions of the goal frame and any relevant openings are measured to ensure they fall within acceptable tolerances. All frame dimensional requirements can be observed in Figure 1 and Figure 2.

Apparatus

A laser distance measuring device capable of measuring to an accuracy of at least ±2mm over a distance of 3.5m.

A vernier calliper measuring instrument with a calibrated accuracy of at least 0.1mm, a minimum measurement range of 150mm, and a display resolution of 0.01mm.

A metal set square with 90±0.5° degree angle.

Procedure

1. Measure the distance between the inner edges of the goal posts at a height of 50±10mm above the playing surface to determine the width of the goalmouth. Record this measurement as W_1.
2. Repeat the measurement at a height of 50±10mm below the underside of the crossbar. Record this measurement as W_2.
3. Measure the height of the goalmouth from the playing surface to the underside of the crossbar at a position of 50±10mm from the inner edge of the right post. Record this measurement as H_1.
4. Repeat the height measurement at 50±10mm from the inner side of the left post. Record this measurement as H_2.
5. Using vernier callipers, measure both the width and depth of each of the posts and cross bar profiles recording the results to the nearest 0.1mm.

Calculation and Expression of Results

Goal height and width measurements shall be recorded and reported to the nearest 1mm. Post and crossbar measurements shall be reported to the nearest 0.1mm. Goal and post measurements shall fall within the tolerances noted in Table 1 below or otherwise be recorded as a failure.

Table 1: Frame Dimensional Requirements

Measurement	Dimensional requirement (mm)
Width – Bottom (W_1)	3,000±3
Width – Top (W_2)	
Height – Right (H_1)	2,000±3
Height – Left (H_2)	
ΔW ($W_1 - W_2$)	<±4
ΔH ($H_1 - H_2$)	

Appendix 6 – Frame Markings

Principle

On the three sides visible from the court, the goalposts and crossbar must be painted with bands of two contrasting colours, clearly distinguishable from each other and from the background. Both goals on a single playing court must feature the same colour scheme. The dimensional requirement of each band type is presented in Figure 3.

Apparatus

A calliper measuring instrument with a calibrated accuracy of at least 0.1mm, a minimum measurement range of 300mm, and a display resolution of 0.01mm.
RAL K7 Classic Colour Chart.

Procedure

1. Using a vernier calliper, accurately measure the length of each band on the goal frame, including all intermediate and bottom bands. Record the results to the nearest 0.1mm.
2. Where the bottom bands are capped, the cap thickness shall also be recorded. Caps shall not protrude past the sides or front of the posts by more than 1.0mm.
3. Where goal frames do not feature bottom caps, a total of 35 measurements shall be recorded. This shall increase to 37 where caps are utilised.
4. Using a RAL K7 Classic Colour Chart, check the colour of both bands.

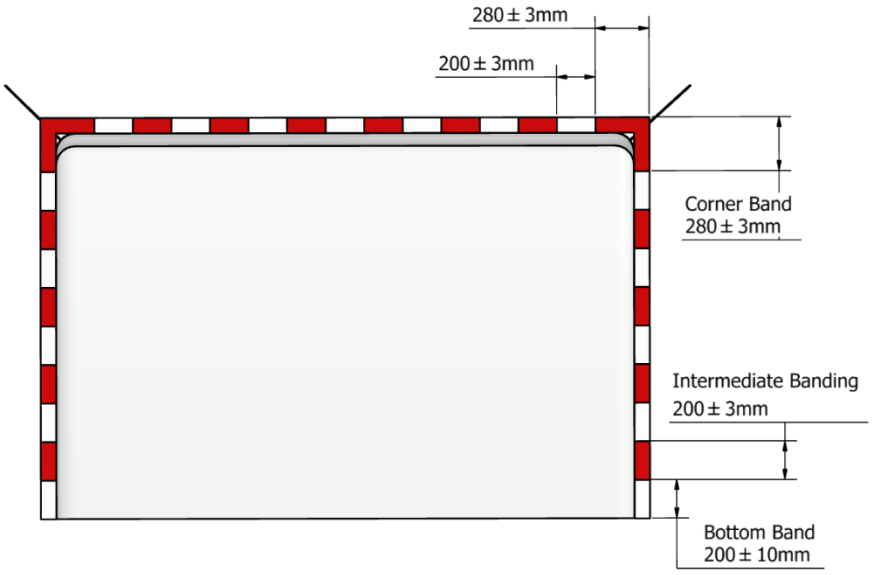

Figure 3: Goal Marking Requirements

Calculation and Expression of Results

All measurements shall be recorded and reported to the nearest 0.1mm with any measured value outside the allowable tolerances being noted as a failure in the test report.
The RAL values for the goal banding shall be recorded.

Appendix 7 – Net Dimensions

Principle

The dimensional characteristics of the net, including its shape, cell width, yarn thickness, and overall size, are measured and evaluated according to the guidelines provided in the following testing procedure.

Apparatus

A calliper measuring instrument with a calibrated accuracy of at least 0.1mm, a minimum measurement range of 150mm, and a display resolution of 0.01mm.
A laser distance measuring device, steel tape, or staff capable of measuring with an accuracy of at least ±2mm over a minimum distance of 8.0m.
A weight of 3.0±0.5kg fitted with a suitable net hook.

Procedure

1. Yarn thickness measurement:
   a) Place the net on a flat, stable surface, ensuring no tension is applied to the yarn.
   b) Measure the yarn diameter at five randomly selected points using callipers with a calibrated accuracy, taking care to avoid exerting excessive pressure.
   c) Yarn measurements on hexagonal nets shall be taken from single-yarn sections of the cell.
   d) Refer to Figure 4 for visual guidance on yarn diameter measurement.
2. Net installation and dimensional assessment:
   a) Install the net onto the goal frame in accordance with the manufacturer's specifications.
   b) For square mesh nets: Measure the horizontal and vertical distances between nodes at five randomly selected locations.
   c) For hexagonal mesh nets: Measure the distance across the three flat sides at three randomly selected locations.
   d) All measurements should be conducted from the internal edge of one node or knot to the external edge of the next.
   e) Refer to Figure 4 for visual guidance on cell width measurement.

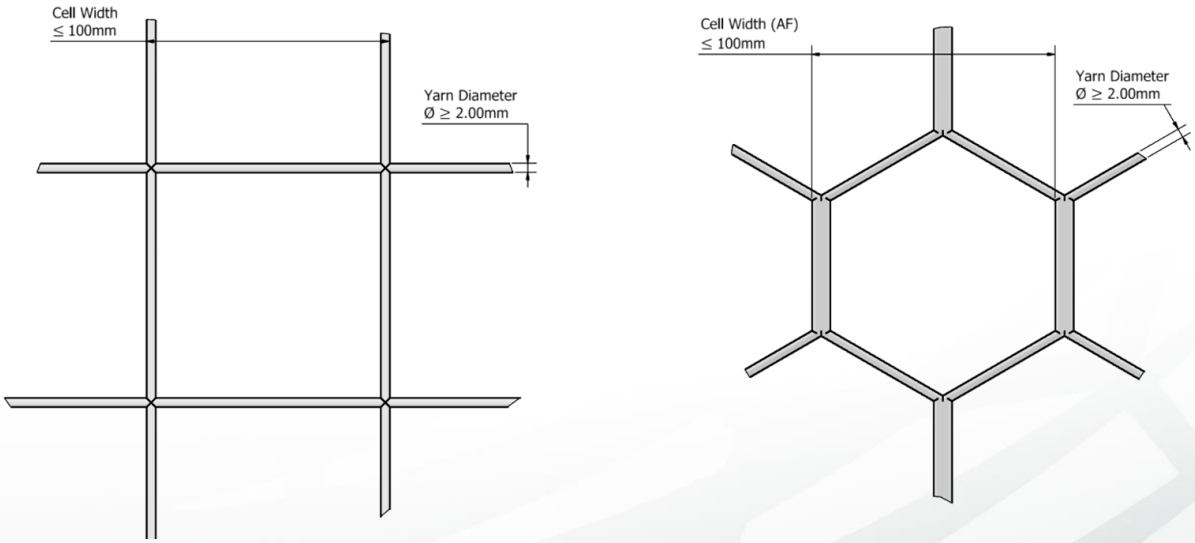

Figure 4: Goal Net Measurement Locations (Square-Left | Hexagonal-Right)

3. Side netting width measurement:
   a) Apply minimal manual force to the side netting, pulling outward perpendicularly to the centreline of each side net, ensuring the removal of any slack.
   b) Measure the net width as the span between the left-hand and right-hand side netting while under this controlled tension.
4. Net slack measurement:
   a) Suspend a calibrated weight of 3.0±0.5kg from the centre of the net at the top of the goal, positioned 500±10mm posterior to the crossbar.
   b) Under the applied load, measure the vertical distance from the playing surface to the lowest point of the net at the location of the weight, quantifying the slack. Record this measurement as h_{slack}.
5. Attachment height measurement:
   a) Measure the vertical distance from the playing surface to the point of net attachment at the back of the crossbar. Record this measurement as $h_{attachment}$.
6. Net depth measurement:
   a) Determine the depth of the net from the rear of the crossbar at a central position across the goal, taking measurements at both the top and bottom sections.
   b) Utilise a laser level, if required, to accurately ascertain the goal line position for the bottom depth measurement.

Calculation and Expression of Results

Yarn thickness and cell width measurements shall be measured and recorded to the nearest 0.1mm with all other measurements being reported to the nearest 1.0mm

Calculate the yarn diameter and cell width using the following equation:

$$Average\ Yarn\ Diameter\ or\ Cell\ Width = \frac{\sum Measured\ Values}{Number\ of\ Measurements}$$

The net height shall be calculated using the equation below:

$$Net\ Height = (h_{attachement} - h_{slack}) + h_{attachment}$$

The results should be reported in tabular form, listing each measurement location, the individual measurements, and the calculated averages. Measurements which fail to meet the requirements laid out in Table 2 shall be recorded as a failure within the results report.

Table 2: Netting Dimensional Requirements

Measurement	Dimensional requirement (mm)
Width	≥3,100
Height	≥2,100
Top Depth	≥800
Bottom Depth	≥1,000
Mesh Width	≤100
Yarn Diameter	≥2.00

Appendix 8 – Mesh Breaking Strength Classification

Principle

Ten samples cut from the goal netting are extended in tension until the point of rupture. Testing is conducted with dry net samples with the load application rate during the test set such that the average time-to-break of the sample set falls within 20±3 seconds.

Samples shall be cut such that a single closed cell is achieved with tails cut immediately prior to the next adjacent node. To avoid fraying of the tails, these should be melted or cut using a hot cutter. An example of a square net sample is shown in Figure 5 below:

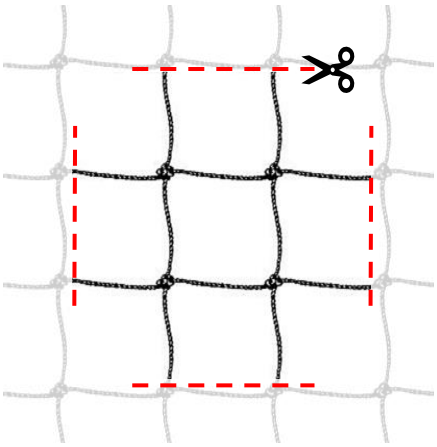

Figure 5: Mesh Breaking Strength Sample Cut Location

If during testing the knots slip extensively preventing a breaking strength to be attained, a sample of 3x3 cells may be used with the test conducted on the centre cell. As with a 1x1 cell sample tails should be cut immediately prior to the next adjacent node.

Apparatus

A tensile testing machine capable of exerting a constant rate of elongation shall be used, the machines measuring capacity should exceed the maximum mesh breaking strength and provide a minimum measurement accuracy of ±1% over the load range applied during the test.
Parallel pins of an approximate diameter of 10mm shall be utilised for mounting the sample in the tensile machine, pins should be of sufficient diameter such that they do not induce localised stress in the sample causing premature breakage. Vice-clamping is not suitable for mesh breaking strength testing.

Procedure

1. Mount the sample over the parallel pins ensuring the knots are positioned as far from the pins as possible, knots should not be in contact with the mounting pins. Ensure pins are parallel to one another and perpendicular to the direction of load application.
2. Apply a constant rate of extension to the samples until a break is achieved, where necessary, trial tests should be conducted in order to achieve a rate of extension which achieves the prescribed mean time-to-break for the sample set.
3. The results of any test in which the break does not occur at a knot or joint shall be discarded. Any test where a break failed to occur due to knot slippage should be discarded.
4. Steps 1 and 2 are repeated until such a time as valid results have been collected on ten test samples.

Calculation and Expression of Results

The peak force and time-to-break for each of the samples shall be recorded to the nearest 1N and 0.1s respectively. The average time-to-break and breaking force for the sample set shall be calculated. Any net achieving an average breaking force below the requirements of Class C shown in Table 3 below shall be noted as a failure within the results report.

Table 3: Mesh Breaking Strength Classifications

Class	Breaking Force (N)
A	>1,800
B	1080<x≤1,800
C	792≤x≤1,080

Appendix 9 – Headline Breaking Strength

Principle

Where a headline is adopted in tensioning the net, this shall be tested for tensile strength in a universal testing machine. Where the goal utilises a ferrous cable/ wire rope in place of a stranded polymer rope, this shall be of a minimum diameter of 3mm and should be coated and shall have capped ends.

Apparatus

Tensile testing machine, accommodating the assumed breaking force of the rope, which allows a constant rate of traverse of the moving element and measurement of the breaking force to an accuracy of ±1%.

Cor de chasse type tensile mounts with a diameter of at least 10 times the diameter of the headline being tested.

Procedure

1. Headline samples shall be cut to a minimum length of 400mm with care being taken to avoid any unlaying of the strands.
2. Samples shall be mounted within the cor de chasse mounts and elongated to break at a speed of 250±50mm/min.
3. The maximum force at break shall be recorded to the nearest 1N and recorded as the breaking force.
4. The procedure shall be repeated for a total of 5 samples for which an average breaking force shall be calculated.

Calculation and Expression of Results

Breaking forces for each sample shall be recorded to the nearest 1N and the average breaking force of all samples calculated. Where the headline achieves a breaking force of less than 3000N, it shall be noted as a failure within the results report.

Appendix 10 – Frame Strength

Principle

A vertical load of 1,800N shall be applied at the centre of the crossbar to assess the structural strength of the goal frame. This test is conducted to ensure that the goal can withstand significant loads without sustaining structural damage or failure.

Apparatus

A stable load application mechanism capable of applying load in a controlled manner to the crossbar of the goal of at least 1,800N in the vertical axis.
Non-dynamic strapping or rope.
An appropriate tensile load cell and read-out unit with a minimum measurement accuracy of ±1% and measuring range of at least 1,800N.
A suitable timing device accurate to ±1 second and a laser measuring device with a minimum accuracy of ±2mm over the measured range during the test.

Procedure

1. Measure the vertical distance between the underside of the crossbar at centre span and the playing surface. Where the surface is not sufficiently flat, a reference surface of known thickness may be placed below the centre of the bar in order to facilitate an accurate measurement. Record this value to the nearest 1mm. Where a measurement board is adopted, its thickness should be added to the measured value, and it should be left in place until completion of the post loading measurement.
2. Ensure the load application mechanism is positioned vertically below the centre of the crossbar span such that the load is applied both vertically, and perpendicular to the axis of the crossbar.
3. Wrap the strapping or rope around the crossbar in a manner such that the applied load creates a moment acting downwards from the outermost edge of the crossbar as shown in Figure 6.

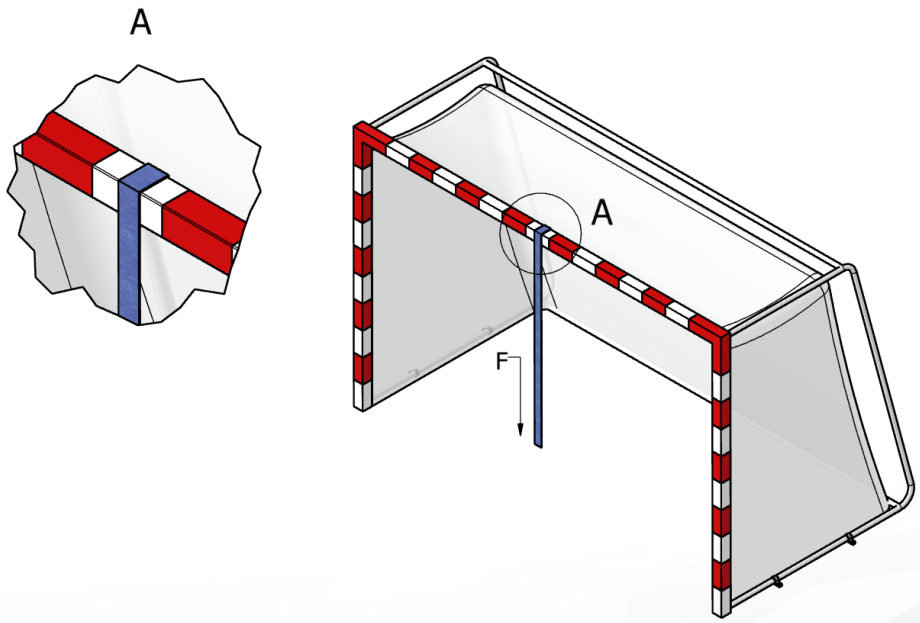

Figure 6: Goal Strength Test - Strap and Load Placement

4. While minimising any sudden loading, the vertical force on the strapping is increased to a load of 1,800±50N. Once the specified load is reached, the force should be maintained for a period of $1\text{min}^{+10}_{-0}\text{s}$ before removing the load.
5. Observe and record any significant movement of the goal during the load application, including toppling, sliding, or other instability.
6. Following a recovery period of $30\text{min}^{+10}_{-0}\text{s}$, visually inspect the goal frame and its components for any permanent deformation, cracking or other damage. Particular attention should be paid to welded connections.
7. Measure the post-load distance from the underside of the crossbar at centre span to the playing surface. Record this value to the nearest 1mm. If a reference surface was adopted for the pre-load measurement, this shall be used for the post-load measurement also. Again, thickness of the reference surface shall be added to the measured value.

Calculation and Expression of Results

Pre-and post-load crossbar height measurements shall be presented to the nearest 1mm. Where the pre-load measurement exceeds that of the post-load measurement by more than 6mm, this shall be noted as a failure to meet requirements. If present, any damage identified following the visual inspection shall be noted in the results report, any damage which may pose a risk to the user or deemed to have a negative effect on the goal's structural integrity or function, shall be noted as a failure to meet requirements.

Appendix 11 – Goal Stability

Principle

A static load of 1100N is applied to the centre of the crossbar at an angle parallel to the playing surface. The test is intended to determine the ability of the goal, and its anchoring mechanisms, to resist toppling forces.

Apparatus

A stable load application mechanism capable of applying load in a controlled manner to the crossbar of the goal of at least 1,100N on the horizontal axis.

Non-dynamic strapping or rope of sufficient length such that a free distance of approximately 3,000mm may be achieved between the goal and loading apparatus.

An appropriate tensile load cell and read-out unit with a minimum measurement accuracy of ±1% and measuring range of at least 1,100N.

A suitable timing device accurate to ±1 second.

Procedure

1. Ensure the load application mechanism is positioned at approximately 3,000mm and central to the front of the goal.
2. Wrap the strapping or rope around the crossbar in a manner such that the applied load creates a moment acting outwards from the uppermost edge of the crossbar as shown in Figure 7.
3. While minimising any sudden loading, the horizontal force on the strapping is increased to a load of 1,100±50N. Once the specified load is reached, the force should be maintained for a period of $1\text{min}^{+10}_{-}\text{s}$.
4. Note any significant movement on the goal, including toppling or sliding, during the load application.

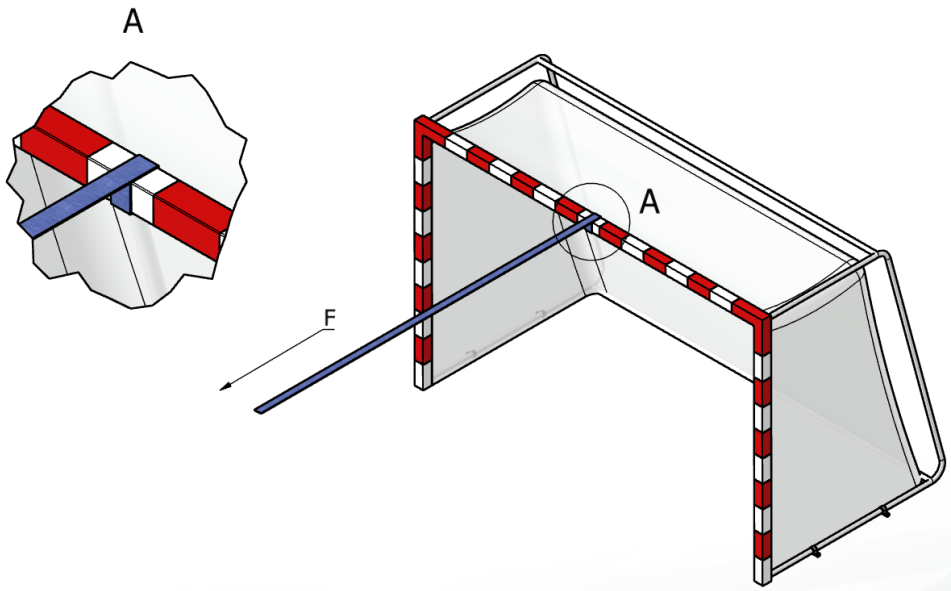

Figure 7: Goal Stability Strap and Load Placement

Calculation and Expression of Results

Any significant movement of the goal from its initial position shall be noted. Should the extent of any movement be deemed to pose a potential risk to the user, this shall be noted as a failure. Should

the goal topple, the maximum applied force at the time of tipping is recorded.

A visual inspection of the goal frame and any socket foundations or anchoring components shall be conducted following the release of the applied load. Particular attention should be paid to welded junctions and bolted connections to determine if any cracking or permanent deformation has occurred. Where permanent damage is visible, this shall be noted as a failure.

Appendix 12 – Frame Entrapment

Principle

The presence of any head, neck, or finger entrapment areas on the frame and any auxiliary components are established using anthropometric probes. Probes are offered up to openings on the goal frame or components thereof and their subsequent free passage or otherwise determines the risk of entrapment potential.

Apparatus

A head form probe in accordance with EN 913:2018 and Figure 8 below shall be adopted for assessment of head and neck entrapment areas.

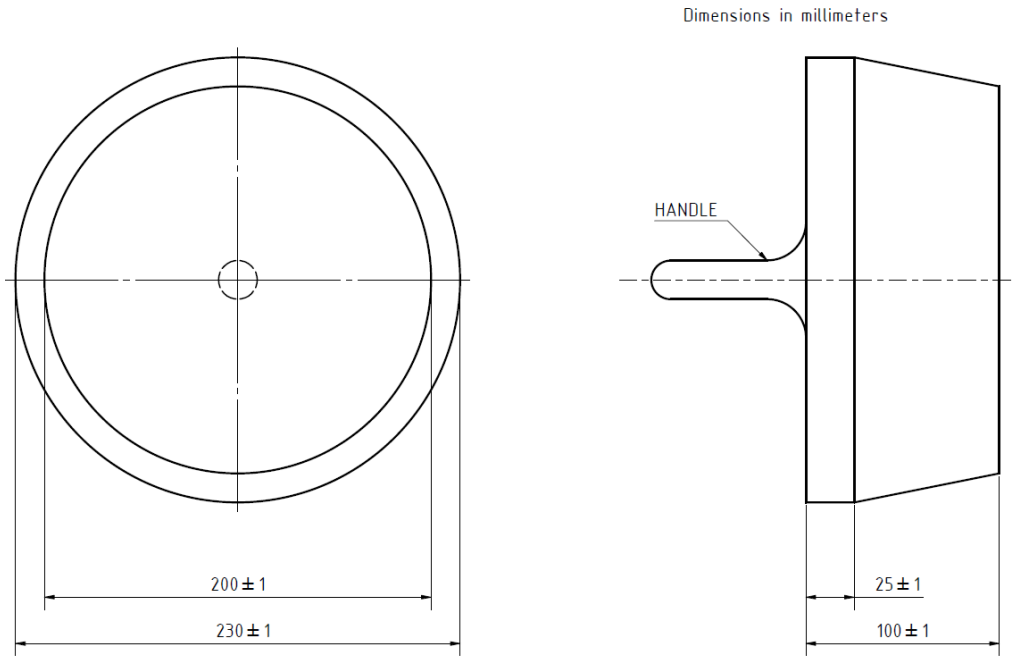

Figure 8: Head Probe Geometry

A single- or dual-end finger probe in accordance with EN 913:2018 and Figure 9 below shall be adopted for assessment of potential finger entrapment areas.

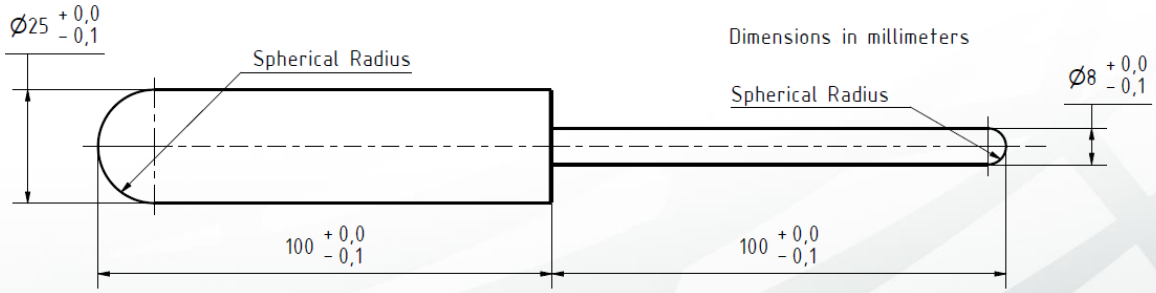

Figure 9: Finger Probe Geometry

Procedure

1. Head entrapment risk shall be assessed by applying the head probe to any openings in the goal frame located above approximately 1200mm from the playing surface. The probe must be applied perpendicular to the opening to ensure accurate assessment.
2. The head probe must pass all frame openings positioned at a height of more than approximately 1200mm from the surface. Any frame openings which do not allow free passage of the head probe shall be noted in the results report.
3. In addition, openings above the height of 1200mm from the playing surface shall not exhibit any downward (V-shaped) opening with downward pointing opening of less than 60°.
4. Finger entrapment testing shall be conducted in accordance with EN 913:2018, which is summarised below.
    a) Apply the 25mm probe to the opening, should the probe pass into the opening, it can be ignored and shall not be identified as a point of finger entrapment risk.
    b) Apply the 8mm probe into all openings in which the 25mm probe did not pass. Where the probe passes into the opening, it shall be rotated to an angle of approximately 45° to the axis of the opening and rotated through 360° in a conical action. Should the probe become stuck such as in image B of Figure 10, this shall be recorded as a failure.
    c) Where the 8mm probe does not pass into the opening, it can be ignored and shall not be identified as a point of finger entrapment risk.

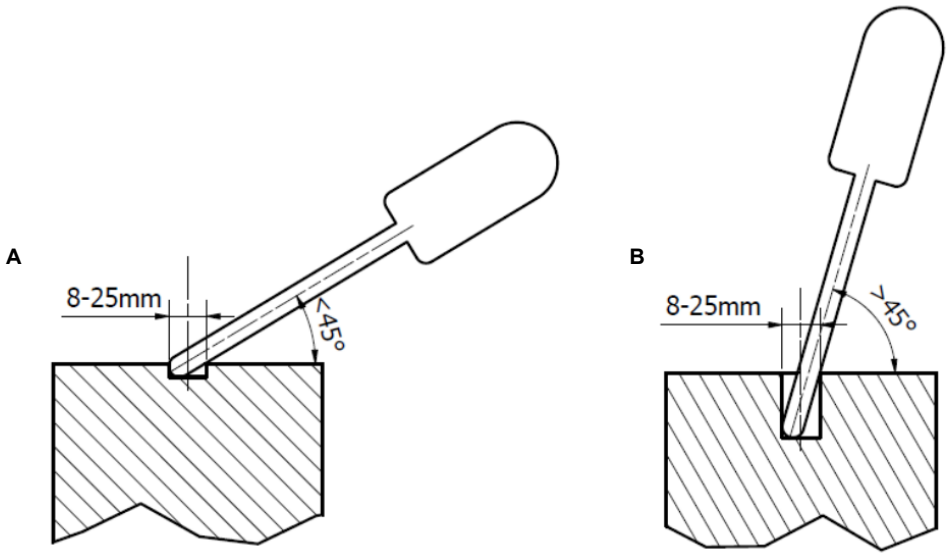

Figure 10: Finger Probe Placement - Left - conforming opening | Right - non-conforming opening

Calculation and Expression of Results

Any entrapment risks identified shall be photographed and presented in the results report as a failure to meet the IHF requirements.

Appendix 13 – Exposed Edges

Principle

Exposed edges such as in the primary post, crossbar and rear net support sections of the frame, are assessed using a set of radii gauges. Exposed edges which may be cause for risk are identified and evaluated against the acceptance criteria for the given location.

Apparatus

A set of steel radius gauges including gauges ranging from at least 2.50±0.1mm to 5.00±0.1mm in radii.

Procedure

1. The radius gauge is offered up to exposed corners of the goal frame, its connecting components and auxiliary components including stanchions or anchoring points if included in the installation design.
2. Corners of the primary goal frame section excluding the rear net supports shall have a radius of not more than 5.00mm and not less than 3.00mm.
3. Exposed corners which, in the event of bodily impact, may create a risk of injury shall be rounded with a radius of at least 3.00mm. Figure 11 presents the appearance of the gauge when used with corners of, above and below the 3.00mm requirement.

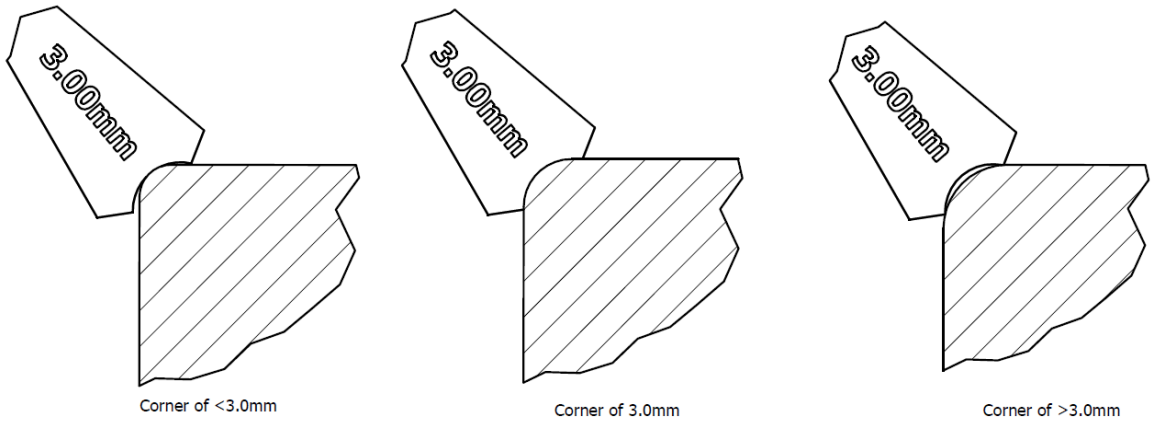

Figure 11: Corner Radius Measurement Positions

Calculation and Expression of Results

Any frame member or component thereof found to fall out with the requirements shall be photographed and presented as a failure within the results report.

Appendix 14 – Goal Labelling

Goals must be permanently and indelibly marked with all required information in accordance with Clauses 7 and 8 of EN 749 including statements such as:

- This handball goal is designed to be used for handball, indoor football or indoor hockey only and no other purpose.
- Check all fastenings are fully tightened before using this product and checked periodically afterwards.
- At all times the goal shall be secured against tilting.
- Do not climb on the net or goal framework.
- The number of the most recent EN 749 publication[1].
- The name or trademark of the manufacturer, retailer or importer and the year of manufacturing of the frame.
- A warning label giving details of use that the goal is designed for and type of net in accordance with Clause 7 of EN 749.

The labelling must be positioned in a location that is clearly visible to the user, preferably on the side of one of the goal frame uprights. An example label is presented below.

[1] Marking EN ISO 749 on or in relation to a product represents the manufacturer's declaration of conformity.
The accuracy of the claim is solely the responsibility of the person making the claim and does not represent IHF certification or validation of conformity.