

Youth Football Specification Recommendations

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Executive Summary

There have been numerous enquiries from all stakeholders of the football industry regarding specifications of youth balls. The most frequently asked questions relate to appropriate sizes, circumferences and weights of balls for players of different age group and whether there are uniform guidelines for production and use of footballs.

In an effort to provide guidance to these stakeholders, the Football Quality Programme at FIFA has conducted extensive research into the existing market and provided an overview of recommendations for different ball sizes to be used in youth football for different age groups. The aim of this document is to provide a consolidated overview of the existing standards and guidelines used in different countries as well as to provide guidance on recommended sizes for the footballs to be used at youth level.

The final list of recommendations includes an addition of three new youth footballs to the two existing size 4 and size 5 Quality Programme balls.

Note: these recommendations are not compulsory. They are based on market research as well as significant consultation with member associations, clubs and manufacturers and are meant to provide universal guidelines for all stakeholders.

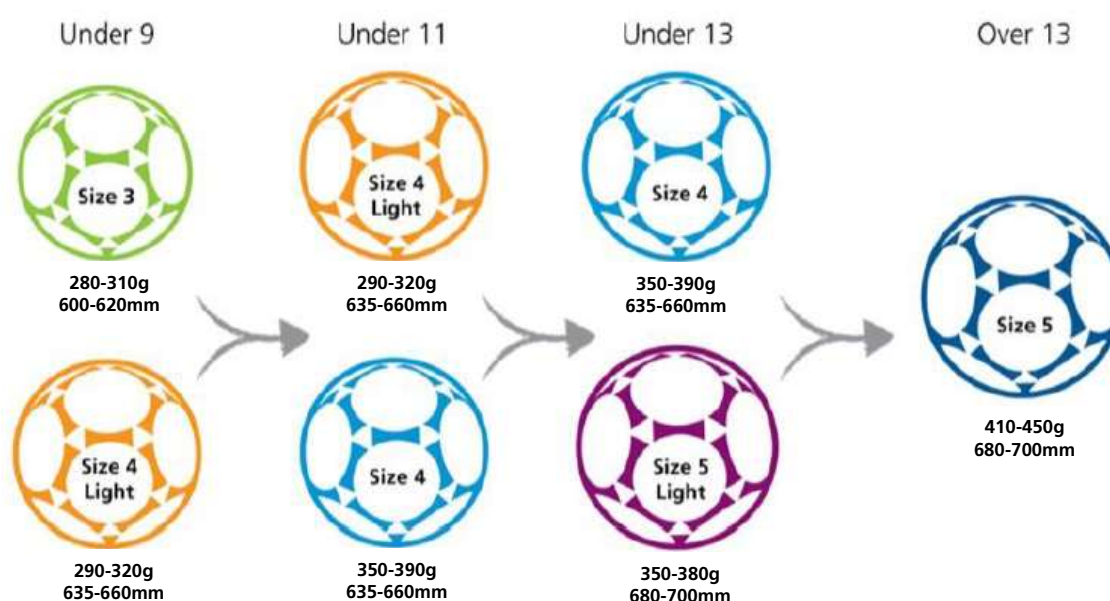


Figure 1: Recommended development route for ball sizes and masses

		Youth Balls			Laws of the Game & FQP	
		Size 3	Size 4 Light	Size 5 Light	Size 4	Size 5
Circumference (mm)	min	600	635	680	635	680
	max	620	660	700	660	700
Mass (g)	min	280	290	350	350	410
	max	310	320	380	390	450

Table 1: overview of recommended youth balls alongside existing test criteria for Laws of the Game compliant balls.

Research

The research has been completed in two parallel phases:

Phase 1 – Existing Market

The first phase consisted of gathering all available information from manufacturers, namely which sizes and weights of balls are produced and what specifications they are following. This part of the research showed that while there are a large amount of variations for lightweight balls on the market, there is both a desire for standardisation and a willingness to reduce the number of different sizes and models being offered.

Based on a large number of specifications from a range of football manufacturers, the four different categories were agreed on as a common denominator. These are:

- Standard size 3
- Lightweight size 4
- Standard size 4
- Lightweight size 5

These four balls were technically defined through circumference and weight to offer recommendations for the manufacturing of such balls and standardise for the consumer.

Phase 2 – Youth Academies and Member Associations

Having established what balls were being offered and the preference of the manufacturers to simplify and standardise the number of sizes and weights, the FIFA Quality Programme sought feedback from the key users: the players. The research consisted of obtaining guidelines provided by various Member Associations who specify the balls to be used in youth competitions as well as qualitative research from workshops with leading European football academies.

MAs

Table 2 shows a summary of selected specifications used by FIFA’s Member Associations in relation to youth footballs. This information illustrates that there was a wide variation not only between different Member Associations but also in different regions within those Member Associations. The differences can be explained by many factors such as size of players, tactical and technical philosophies and basic research carried out in the respective territories.

	KNVB - Netherlands		France - FFF		Spain		DFB - Germany (as of 2018/2017)		UK - The FA/ISFA		Mexico		Japan	
	size	weight	size	weight	size	weight	size	weight	Size	weight	Size	weight	Size	weight
U7	-	-	-	-	-	-	3	290	3	-	4	-	3	-
U9	4	290	3	290	3	290	3 & 4	290	4	-	4	-	3	-
U11	5	290	4	350	4	350	4	290 / 350	4	-	4	-	4	-
U13	5	350	4	350	4	350	4 & 5	350	4	-	4	-	5	-
U14	-	-	-	-	5	410-450	-	-	4 & 5	-	5	-	5	-
U15	5	410-450	5	410-450	-	-	5	410-450	5	-	5	-	5	-

Table 2: overview of selected youth ball specification used in Member Associations

Based on the above, the FIFA Quality Programme has put in place the following guidelines for development paths that appear in different variations in the Member Associations. The age categories are loose recommendations relating to the specification put in place by the Member Associations.

Clubs

The research further gathered feedback from leading clubs to better understand their demand for youth balls and the philosophies behind the use of specific balls for specific age groups. Workshops were held with the academies of Arsenal FC, Ajax Amsterdam, Chelsea FC, Real Madrid, Olympique de Marseille and VfB Stuttgart. These clubs presented their general approach to coaching in their youth academies, their training methods and their opinions on FIFA's recommended youth football programme. From these meetings there were concepts which all clubs agreed on as well as some constructive comments that FIFA should keep in mind when creating this development program.

Consolidated feedback shows that all teams follow regulations of their federations for matches but use different kinds of balls (including mini balls or tennis balls) and different surfaces in training to make it more variable and teach higher reactivity. The most important considerations that were raised were the following:

- Clubs are aware of concussion risk but indicate that headers are very rarely trained until U12
- More medical research is necessary if the requirements are to be made compulsory
- Water absorption and quality of the youth footballs were seen as the biggest issues which warrant further research
- All clubs welcomed the idea of guidelines but emphasised the need to comply with their federations' regulation and therefore urged not to introduce compulsory requirements so as to avoid conflicts for match eligibility.

Recommendations and further considerations

Based on all the gathered information, the FIFA Quality Programme has compiled this document as a non-binding guideline to provide suggested standardisation for manufacturers and outline development paths for youth academies indicating different balls types for different age groups. It must be noted that this information is a synthesis of existing models and has not been further validated by medical studies.

Follow up work to this data collection has included a study conducted by the Friedrich-Alexander-Universität Erlangen-Nürnberg looking at the effect of ball features on health risks in competitive children and youth football. This study has found some links between ball features and health risks however further experimental data is needed to make more definite conclusions. Future studies could include a quantitative study which explores the effects of reducing ball mass on velocities of footballs used by youth players as well as the resultant impact forces.