

GUIDELINES & PROCEDURES FOR MANUFACTURERS TO CERTIFY THAT EQUIPMENT COMPLIES WITH PDGA TECHNICAL STANDARDS

Rev. 4/6/09

(I) DISCS

(A) Submission Procedure

In order to have the production of a mold approved for certification, the equipment manufacturer must submit at least three samples of the disc to the PDGA Technical Standards Committee Chair. Developers are encouraged to make early communication with the chair of the committee well prior to submission of samples if they have any questions about the ramifications of a potential design.

For mailing, contact and payment details, see section (IV) below.

The PDGA Technical Standards Committee is responsible for testing equipment submitted for PDGA approval. The tests are conducted either by an independent laboratory or by a committee member with the expertise and equipment necessary to measure the physical attributes.

After evaluation of the submission, the Technical Standards Committee will prepare a report of the specifications and suitability of the disc for play. That report is forwarded to the Board of Directors for its review and certification, which is typically done on a monthly basis. In most cases, the approval process by the Technical Standards Committee will be completed in 15 or fewer days, however that period may be longer if deemed necessary. If the period of evaluation exceeds 15 days, an explanation of the circumstances will be provided to the manufacturer.

(B) Notification, License and Use of PDGA Certification

If the submission is not approved, an explanation of the testing failure will be sent to the manufacturer.

The Chair of the Technical Standards Committee will notify the manufacturer, the PDGA Competition Director, the PDGA Oversight Director, the PDGA web site administrator, and the PDGA Administrator that the submission has been sent to the Board for certification. An electronic press release noting the approval will also be sent to all publications that have requested such notification. A listing of submissions certified by the Board of Directors appears in the minutes of their meetings.

After the manufacturer is notified of PDGA approval and certification, the equipment may be used in PDGA-sanctioned competition and the equipment manufacturer must uniquely identify each product. This can be accomplished by placing a distinguishing symbol or name on all products for sale. Indelible markers, hotstamps, stickers (7 cm max in any direction) and mold markings are all acceptable methods of marking discs. Additionally, the words "PDGA Approved" may be placed on the disc and its packaging, and the PDGA Logo may also be used in direct association with the words "PDGA Approved." As part of the notification of approval and certification, the Technical Standards Committee Chair will issue formal permission to use "PDGA Approved" and the PDGA Logo for this purpose.

All discs permitted for use in a PDGA World Championship must have been formally approved and

available in retail outlets at least 30 calendar days prior to the event.

(C) Guidelines for Discs Manufactured for PDGA Competition

Hi-Tech is the designation given to all discs submitted and approved for PDGA competition. Unless otherwise specified or restricted by the tournament director, all discs on the PDGA Approved list may be used in regular PDGA competitions. **Hi-Tech** approved discs must:

- (1) have a circular, saucer-like configuration, with a flight plate unbroken by perforations and an underside inner rim depth that is between 5 and 12 percent of the outside disc diameter. The flight plate is defined as the upper (or dorsal) section of the disc, which is delineated by the points where the inner rim depth is measured. The saucer-like configuration requires a significant degree of asymmetry between the upper and lower sections, resulting in distinct top and bottom sides of the disc;
- (2) be made of solid, non-magnetic plastic material, without any inflatable components;
- (3) not be less than 21 cm in outside disc diameter, nor exceed 30 cm in outside disc diameter;
- (4) not exceed 8.3 g per cm of outside disc diameter;
- (5) not exceed a maximum weight of 200 g;
- (6) have a flight plate that does not exceed 0.5 cm in thickness, including any raised features such as lettering, ridges, nipples, and other thickened parts. Discs with a thickened section atop or underneath the flight plate, however, may increase to 1.0 cm in flight plate thickness in this section only, provided that this section:
 - (i) is circular in outline;
 - (ii) is between 5 and 10 cm in diameter for an area with a uniform thickness that is centered on the center point of the disc; and
 - (iii) gradually thins at the outer edge at a slope that averages no more than 50% (or 22.5 degrees) relative to the surrounding part of the flight plate. No part of the underside of the flight plate may be closer than 0.5 cm to the plane defined by the bottom of the rim.
- (7) have a smooth surface on the bottom part of the rim; that is, a surface free of any irregularities such as protrusions or depressions. When placed on a flat surface, the rim must have no discernible gaps between itself and the surface on which it is resting.
- (8) have a rim area, beyond the top of the flight plate, that does not include any surface elevation that is more than 3mm above the outermost edge of the flight plate.
- (9) have a rim width no greater than 2.6 cm (Does not affect discs approved prior to 1/1/08);
- (10) have a circular inner rim no less than 15.8 cm in diameter. (Does not affect discs approved prior to 1/1/08).
- (11) have a rim configuration rating of 26.0 or greater;
- (12) pass the leading edge radius test with a 1/16" (1.6 mm) radius gauge;
- (13) have a flexibility rating no greater than 27 lb. (12.25 kg);
- (14) be of a production-type disc available commercially to the public in numbers of at least 500; and,

(15) be essentially as produced, without any post-production modifications that affect the weight or flight characteristics.

150 Class is the designation given to discs approved for play in Japan and other PDGA sanctioned events designated as **150 Class**. All discs on the PDGA Approved list may be used in these competitions as long as their weight is 150 grams or lower.

Super Class is the designation given to a subset of PDGA approved discs that meet all of the criteria specified for **Hi-Tech** discs with the following changes to the same numbered specification above:

- (1.sc) have a circular, saucer-like configuration, with a flight plate unbroken by perforations and an underside inner rim depth that is between 6.7 and 12 percent of the outside disc diameter;
- (3.sc) not be less than 23.7 cm in outside disc diameter, nor exceed 30 cm in outside disc diameter;
- (9.sc) have a rim width no greater than 0.8 cm
- (11.sc) have a rim configuration rating of 75 or greater.

Super Class discs are the larger diameter, taller height and blunter rim discs among those approved. The PDGA sanctions Super Class competitions and provides course and player ratings separate from those produced with the more bevel edge Hi-tech discs.

Vintage Class is the designation given to a subset of PDGA approved discs that meet all of the criteria specified for Hi-Tech discs with the following changes to the same numbered specification above:

- (4.v) not exceed 6.7 g per cm of outside disc diameter.
- (11.v) have a rim configuration rating of 75 or greater.
- (13.v) have a flexibility rating no greater than 20 lb. (9.1 kg).

Vintage Class discs are lighter with blunter edges than those used for regular disc golf competition. Although they were originally used for disc golf, they are primarily used for disc games in overall competitions like Accuracy, Double Disc Court and Discathon with specific **Vintage Class** discs used for Ultimate and Guts.

(D) Test Methods for Discs

Metric measurements are employed in characterizing the physical properties of flying discs. All linear measurements are rounded to the nearest mm (0.1 cm); measurements ending in 0.5 mm are rounded up. Weight measurements are rounded to the nearest decigram (0.1 g); measurements ending in 0.05 g are rounded up. The PDGA Technical Standards Committee measures and records the following attributes:

(1) Outside Disc Diameter - This attribute is recorded using a pair of calipers with a 40-cm measuring capacity. Measurements are taken from three or more transects across the outside diameter of the disc, and then averaged. These measurements must vary by no more than 1 mm. The outside disc diameter is used to calculate the maximum weight permitted in PDGA competition.

(1) Height - This attribute is recorded using a pair of calipers. To measure height, a specialized large caliper such as a tree caliper is used.

(2) Rim Depth - This attribute is measured using a metric ruler. The rim depth is defined as the distance between a straight edge placed across both rims and the point where the rim meets the flight plate of the disc.

(2) Rim Thickness - This attribute is recorded using a Vernier caliper. The rim thickness is defined as the distance between the outermost and innermost edges of the rim.

(3) Inside Rim Diameter - This attribute is recorded using a pair of inside calipers. The inside rim diameter, equal to the outside disc diameter minus twice the rim thickness, defines the distance across the flight plate.

(4) Rim Configuration - The rim of the disc is held perpendicular to a contour gauge having 13 probes per cm (such as the Valued ST142). The rim of the disc is then pressed gradually into the gauge to a depth of 5 mm. The resulting movement of each affected probe is measured to the nearest 0.25 mm, and then totaled to produce the rim configuration rating. The ratings of three samples are determined, and the median score is used as the final rating.

(5) Leading Edge Radius - This attribute is evaluated using a 1/16-inch (1.6 mm) radius gauge. To pass this test, the leading edge of the disc must not come in contact with the gauge.

(6) Flexibility - The disc is held on its edge in a vertical position perpendicular to a scale with a precision of at least 2 oz. (56.7 g). The upper rim of the disc is then gradually pressed down within 5 seconds. The flexibility rating is determined at one of two points, depending on how the disc reacts to the application of pressure. For discs that buckle, the flexibility rating corresponds to the point when the maximum weight is registered on the scale. For discs that do not buckle, the rating refers to the weight at the point when the inside rim-to-rim distance is at 50 percent of the disc's diameter. The temperature of the disc is to be no higher than 25 degrees Centigrade (77 F) when the test is performed. The ratings of three samples are determined, and the median score is used as the final rating. Discs that are unable to be bent to 50% of their diameters fail the flexibility test. Manufacturers are required to send samples of the most rigid discs they want considered for PDGA approval.

(9) Flight Plate Thickness - This attribute is measured using a large pair of calipers, such as tree calipers, and a metric ruler. The calipers are placed across the top of the disc and both sides of the bottom of the rim. A ruler is then used to measure the distance from the calipers to the thickest part of the flight plate (typically only on the bottom of the flight plate, but also on top if the caliper on top does not touch the flight plate). This distance is then subtracted from the height of the disc to obtain the flight plate thickness.

(E) Retesting

There are several circumstances under which a disc that has been previously approved is required to be submitted for a retesting procedure. If there are changes to a mold that has been producing an approved disc, the discs produced by the changed mold may have to be retested for approval. Not all such changes require approval. Retesting is only required if a mold includes the addition or removal of a new structural feature such as a bead, or results in a measurement that may violate any of the technical standards.

The requirements, procedures, schedule, and fees of the retesting procedure are identical to that of the initial testing procedure. If it is demonstrated that the disc in question does not meet the requirements for retesting there will be no fee due from the manufacturer.

(II) DISC-CATCHING TARGETS *(effective February 1, 2009)*

(A) General Configuration

Targets are typically constructed with a basket and typically have a deflection assembly above it. In

addition, post-style targets may be approved that have an identified target zone but no basket.

Targets are approved in one of three progressively higher levels: Basic, Standard or Championship. A Basic target can be strictly designed for practice and portability or for light duty installations, and is considered acceptable for leagues and X-tier events. In addition, a target with less conventional design elements being introduced with a goal of transforming the sport may initially qualify for the Basic category. Standard targets are typically designed for permanent public installations and are acceptable for events up through B tier along with their portable versions. Championship targets are typically heavy duty construction and must meet the narrowest set of specifications to provide as much uniformity as possible for events at the highest Championship level. Their portable versions, if available, must have designs identical to the permanent versions other than the base.

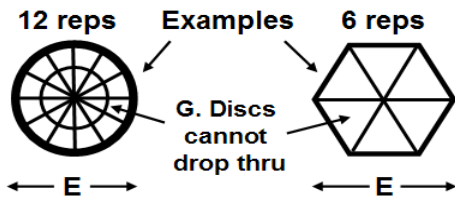
Target models approved before February 2009 have been grandfathered into one of the three levels even though some may not meet all of the new specifications. All existing approved target models are automatically grandfathered into a level as will newly produced units of these same designs after January 31, 2009. However, if any significant changes are made to upgrade a grandfathered model, it must be resubmitted for approval and it then must meet the relevant current specifications to remain at that level.

(B) Target Components

The following table and diagrams indicate the set of specifications for each of the three Target categories effective for target models submitted after January 31, 2009.

(continued)

C. RADIAL SYMMETRY



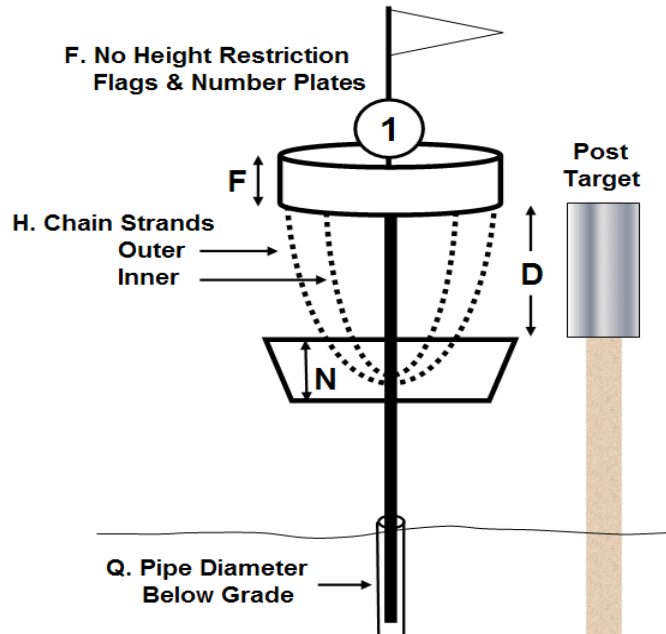
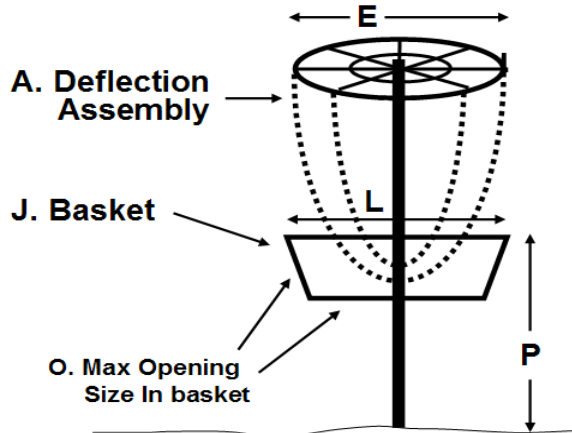
M. BASKET OPENING



Shaded cross sectional area must fall in spec for Basic targets including any shape of baskets



TARGET DIMENSIONS



DISC GOLF TARGET SPECIFICATIONS - PDGA APPROVED - FEBRUARY 2009

Item Specification	Championship	Standard	Basic	Pre-2009
A. Deflection Assembly - Required?	YES	YES	NO	NO
B. Deflection Assembly - 360 Degree Disc Access?	YES	YES	-	-
C. Deflection Assembly - Radially Symmetrical?	Min 12 reps	Min 6 reps	-	-
D. Target Zone (if it has one) - Height ¹	51 +/- 3	51 +/- 3	54 max	-
E. Deflector Support - Required Diameter	57 +/- 4	57 +/- 4	68 max	71 +/- 2
F. Deflector Support - Height above target zone ²	max 15	max 15	-	-
G. Deflector Support - Discs can drop thru top?	NO	NO	-	-
H. Deflection Device - Number of Chain Strands	Min 12 out / 6 in	Min 12 outer	-	-
I. Deflection Device - Primary material by weight ³	Metal Chains	-	-	-
J. Basket - Required?	YES	YES	NO	YES
K. Basket - Radially Symmetrical?	Min 12 reps	Min 6 reps	-	-
L. Basket - Required Inside Diameter at Opening	66 +/- 4	66 +/- 4	-	O.D. 67, not I.D.
M. Basket - Opening Cross Section Area	-	-	.35 +/- 0.1 sq m	-
N. Basket - Required Inside Depth ⁴	18 Min	18 Min	15 min	15 +/- 2
O. Basket - Max open length allowed in sides / bottom ⁵	18	21	21	-
P. Basket - Rim Height above grade (as produced)	82 +/- 6	82 +/- 6	82 +/- 6	82.5 +/- 6.5
Q. Center Pipe Diameter - Lockable Installations ⁶	max 4.8	4.8 sugg.	-	-

All dimensions in centimeters unless otherwise indicated

v1.6

¹ For targets with baskets and deflection assemblies, it is the distance between the top of the basket wire and bottom of deflection assembly support.

For post style targets with no basket or deflection assembly, it's the height of the zone specified where a disc hitting it is considered holed out.

² This is a height restriction at the outer diameter of deflector. It does not restrict the height of number plates and flags extending up from the middle.

³ Manufacturers with proposed material innovations may submit request to waive this requirement.

⁴ This depth must be reached within 5 cm moving toward the center from the outer edge of basket opening

⁵ This is measured in any direction to minimize chance of disc sticking in side or bottom of basket

⁶ This diameter is only required for the portion of pipe that will sink into a ground anchor tube

(C) Other Acceptable Targets

The PDGA supports innovation in target design. Manufacturers who have what they believe is a better idea for a target element that does not meet one or more of the guidelines for Standard or Championship targets may submit a request for a waiver of that specification with documentation why the exception should be considered. Even more radical target designs should be able to meet the guidelines for the Basic category. So even if a waiver is not granted, an innovative target might be approved for Basic level with the intent to reconsider a higher level if the marketplace determines its acceptability.

(D) Bases for Portability

Recommend that portable bases for higher level baskets have more sturdy construction and design, which can withstand daily use and exposure.

(E) Testing Procedure

The requirements, procedures, and schedule of the target testing procedure are identical to that of the initial testing procedure for discs except for the following:

- Only one sample of the target need be submitted with testing fee and addresses shown in section IV.
- The tolerances are indicated within each specification where relevant.
- If a target is designed such that components like number plates, flags or chain sets can be added later to upgrade a base model, the complete assembly should be submitted for approval so both the base model and upgraded model can be tested and approved. No additional fee is required.
- If the target is not approved, an explanation of the testing failure and a refund will be sent to the manufacturer. The refund amount is shown in section IV.

(F) Exclusions and Limitations

PDGA target certification shall not be construed to judge whether or not any certified basket or target is free of patent infringement. PDGA target certification does not necessarily mean that a certified target is appropriate for use in all PDGA tournaments or events. The final determination of target types and configurations used in competition may be determined by PDGA event regulations or the determination of tournament directors and competition officials.

(G) Retesting

There are some circumstances when a target that has been previously approved must be submitted for retesting:

(1) Configuration Changes - If there are certain changes to a target model that had been previously approved, the newly configured target may have to be retested. Only some changes require approval but manufacturers are requested to communicate any changes so the PDGA Approved Target database remains current with specifications on models that are shipping. Retesting is required if any change falls outside existing specifications and will require a request for waiver. Retesting for changes that still fall within specifications is only required if the new configuration involves reductions in the values of Specifications C, H or K (see table) from the previously approved model.

(2) Name Changes - If a target that has previously been approved for PDGA competition is to be marketed under a different name, retesting is required. It is the responsibility of the manufacturer to notify the Technical Standards Committee Chair when the circumstances as described above dictate that a target may need retesting. The Chair may also call for submission of a target for retesting if he or she becomes aware that a manufacturer has been producing a target that meets one or more of the circumstances that require retesting. The requirements, procedures, schedule, and fees of the retesting procedure are identical to that of the initial testing procedure outlined above. If it is demonstrated that the target in question does, in fact, not meet the requirements for retesting there will be no fee due from the manufacturer.

(III) PUBLICATION

The Technical Standards Committee is to make available a list of all equipment that has been approved for competition, including identification of which discs and targets are currently being produced for sale. This list will be published on the PDGA web site and by the official PDGA magazine, as deemed appropriate to inform the membership.

(IV) MAILING, CONTACT AND PAYMENT INFORMATION

Send disc or target samples for testing to the Technical Standards Committee Chair, Jeff Homburg, 4502 E 16th St, Tucson AZ, USA 85711, Phone 520-571-7787). At the same time, send payment to the PDGA office at 3828 Dogwood Lane, Appling GA USA 30802-3004, Phone 706-261-6342. The check should be made payable to the PDGA. The fee for disc testing is \$300 and the fee for target testing is \$350.

A previously-approved disc or target that is assigned an entirely new name by the manufacturer (that is, a name that does not include the model name of a previously-approved disc), excluding custom hot-stamped discs, requires manufacturers to notify the Technical Standards Committee Chair and send a \$100 fee to the PDGA.

The PDGA may test any product at its own expense at any time to determine if an approved product continues to fall within the range of PDGA specifications.

Manufacturers who are in their first calendar year of submitting discs for PDGA approval receive a 50% discount on testing fees.

If a target is not approved, an explanation of the testing failure and a refund of \$175 will be sent to the manufacturer.

Fees and contact information are subject to announced change.