

Pickleball Paddle Design Competition

SAMPE Seattle, April 2026

Rules for SAMPE Student Chapter Pickleball Paddle Design Competition

The first SAMPE Student Chapter Pickleball Paddle Design Competition will take place at SAMPE Seattle, April 27-30, 2026. The competition will consist of SAMPE student chapter teams fabricating three identical Pickleball paddles at their school and bringing the paddles to SAMPE Seattle in April 2026, where they will first be judged for utility and originality and attractiveness/appearance, and also be tested for a target paddle stiffness.

Student chapters may submit two entries (each entry consisting of three paddles); however, the second entry must be substantially different in design/originality from the first entry. Chapters wishing to submit a second entry must request approval by submitting a short description of both planned entries that highlights the key difference(s) between them. These differences may relate to core or face materials, fabrication methods, geometry or design objectives, or functional goals (e.g., stiffness optimization, vibration control, weight reduction).

Note: Requests for second-entry approval are due within 7 days of the original (first entry) submission and will be reviewed by the SAMPE Pickleball Contest Volunteer Leaders. Approval will be based on whether the two entries are reasonably distinct in their engineering approach or design concept.

The fabricated paddles must conform with general requirements as set forth in Section 2E of the USA Pickleball Official Rulebook (<https://usapickleball.org/docs/USA-Pickleball-Official-Rulebook-2024-v1.pdf>). However, the paddles are not required to conform with Paragraphs 2.E.2, 2.E.5.b, 2.E.5.c or 2.E.6. See Section 2 of the rules (for paddles) attached.

All paddles will be tested for stiffness on a device set up at the exhibition. The objective will be to have an average minimum load of 42 lbs at a deflection of 0.063 inch as defined by the Pickle Pro Labs Average Deflection Force Test used by the UPA-A. A schematic summarizing the Average Deflection Force Test for pickleball paddles is shown in Figure 1.

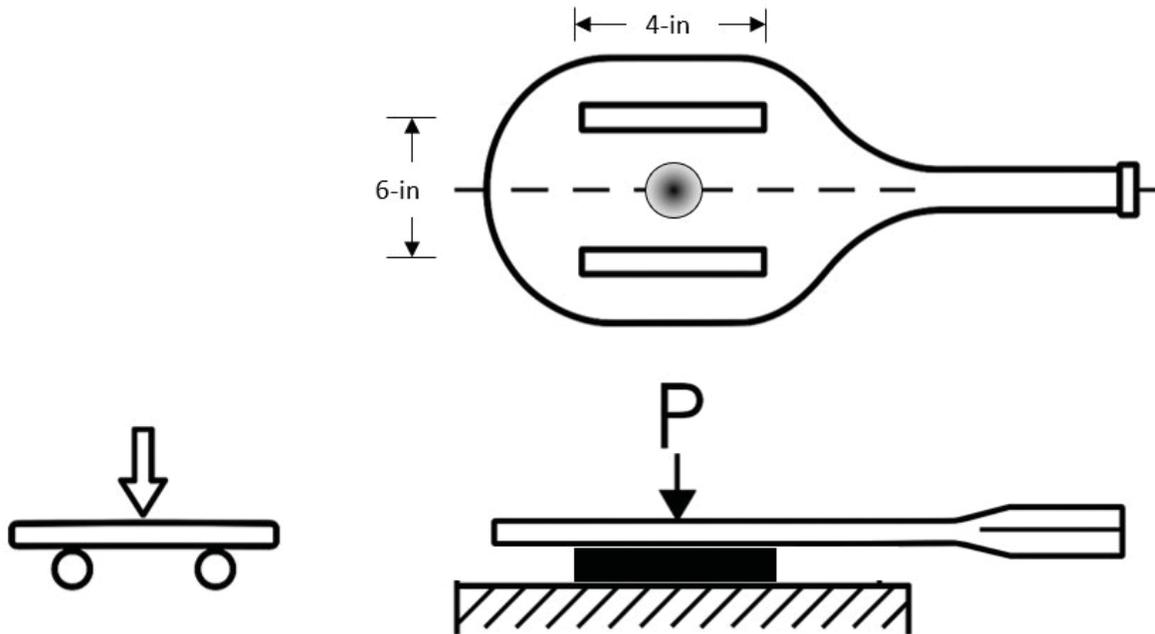


Figure 1. Average Deflection Force Test schematic

A more detailed description of the test setup is given in the Pickle Pro Labs Average Deflection Force Testing Procedure (see attachment).

The contest objective is to design and build a paddle that has some unique characteristic. (Eliminating the conformity requirements of Paragraph 2 above may foster creativity.) Paddles will be designed and fabricated at facilities at the participating schools. Although conventional paddles are made of wood or laminated with cores and face materials of carbon or glass, any materials are acceptable. It is up to the individual student chapters to obtain their needed materials. The faces of the paddles should be imprinted with logos or designs so as to make them attractive and identifiable.

Note: an early tutorial on building Pickleball paddles can be found at <https://njsampe.org/blog/f/how-to-build-your-own-pickleball-paddle>

A poster, approx 24x36", will accompany the paddles and describe an aspect of the design and/or the fabrication process, the concept of a unique paddle, or some other design feature which may give the player some court advantage such as spin or speed control.

Paddles and posters will be put on display on the first day of the Exhibition. Judges will examine the paddles and poster together and award prizes based on paddle originality, attractiveness, utility, and poster clarity and effectiveness.

All paddles will be non-destructively tested at the exhibition for a stiffness objective that is suggested by the USA Pickleball Association. That is a deflection of 1/16 inch for a 42 lb center load on a 6 inch span. The average load of the 3 paddles will be compared to the objective and points awarded accordingly. See table below.

At least two students from each team must be SAMPE student members.

The entrance fee for each team will be \$45. The application form, attached, may be submitted starting January 6, 2026. The final submission date of Mar 15 (or Mar 21 for second submission)

Awards

Prizes will be awarded in the following categories, including:

- Top Overall Entry (Poster Communication will be factored in here)
- Best Fabrication & Materials Use
- Most Innovative Design

Important Dates

(Exact dates TBD based on full conference schedule)

- **First pickleball paddle design proposal deadline:** March 15, 2026
- **Second pickleball paddle design proposal deadline:** March 21, 2026
- **Poster and paddle setup:** Tuesday, April 28, 2026, by 11:00 am at SAMPE Seattle
 - **Students must print and bring their own posters**
- **Judging window:** Tuesday, April 28, 2026, between 1:00 pm – 3:00 pm

During SAMPE Seattle, a Pickleball tournament will take place for SAMPE Student Chapters and or SAMPE members, featuring the **made pickleball paddles**. Additional details, including participation and tournament information, will be shared as they are finalized.

JUDGING

CATEGORY	CRITERIA	POSSIBLE POINTS
1. Originality & Innovation	Creative use of materials, structure, or fabrication methods; unique functionality or concept	15
2. Fabrication Quality	Execution of bonding, layup, edge finish, handle design, overall precision	15
3a. Stiffness Testing	Average Deflection Force (ADF) to reach 1/16 inch center deflection as measured using Pickle Pro Labs Average Deflection Force Testing Procedure using the Automated Design Corporation's (ADC) Pickle Press Load Frame (PPLF) 42.0 – 44.0 lbs 30 pts 44.1 – 50.0 lbs 25 pts 50.1 – 60.0 lbs 20 pts >60.0 lbs 10 pts <42.0 lbs 0 pts	0 - 30
3b. ADF Consistency	Min to Max of paddle stiffnesses across 3 paddles 0 – 10.0 lbs 10 pts 10.1 – 20.0 lbs 5 pts >20.0 lbs 0 pts	0 - 10
4. Poster Communication	Clarity of explanation, logical structure, visuals, and how design decisions were explained and justified	20
5. Other engineering tests	Other in-house tests reported on Poster. Examples: Vibration, bounce, roughness, noise, balance tests.	10
Bonus: Use Of Recycled Or Sustainable Materials (Optional)	Clearly indicated use of recycled, reused, or bio-based materials	+0–5

Additional information for the Pickleball Contest

In addition to submitting your entry and fee for the Pickleball Contest, we are requesting some additional information regarding your entry:

- A short description (less than 100 words) of what you plan on building, listing materials, fabrication method (vacuum molding or hand layup or 3D printing or whatever), any unique factor, etc. As you build it, if you decide to change some things, that's ok, this is a work in progress.
- If you have a second entry, just submit another 100-word description, and make sure you identify the differences from the first entry.
- List the student teams within the student chapter and the advisor.

Send the submissions to Howard Kliger (email address below) and the registration fees to SAMPE. We will respond with approvals.

Contact Howard Kliger directly if you have more questions.

Howard Kliger
20 Stryker Rd
Somerset NJ 08873
(c) 908-421-5591
hskliger@comcast.net

Clarification on the Point System of Judging:

For each entry (consisting of 3 paddles) points will first be awarded by the judges for:

1. Originality and Innovation 15 max
2. Fabrication Quality 15 max
3. Poster 20 max
4. Other engineering tests 10 max
5. Recycled materials 5 max

Then the 3 paddles will be mechanically tested per the ADF procedure. Each paddle will be loaded four times, at the 4" and 5" positions on each side. The average loads of the 12 tests, each to reach 1/16" deflection, will then determine the number of points (0-30) awarded for stiffness testing.

42.0 – 44.0 lbs	30 pts
44.1 – 50.0 lbs	25 pts
50.1 – 60.0 lbs	20 pts
> 60.0 lbs	10 pts
< 42.0 lbs	0 pts

The range of loads for the 12 tests (from the largest to the smallest load) will then be examined:

If the range is 0 – 10.0 pounds	10 pts
If the range is 10.1 – 20.0 pounds	5 pts
If the range is greater than 20.1 pounds	0 pts

Attachment: Rulebook Section 2.E. Paddle Specifications.

2.E.1. Material. The paddle must be made of any material deemed safe and not prohibited by these rules. The paddle shall be made of rigid, non compressible material meeting the criteria located on the USA PICKLEBALL website.

2.E.2. Surface. The paddle's hitting surface shall not contain delamination's, holes, cracks, rough textures, or indentations that break the paddle skin or surface, or any objects or features that allow a player to impart excessive spin on the ball.

2.E.2.a. Reflection. The paddle's hitting surface shall not be adversely reflective, such that it has the potential to negatively affect the vision of opposing player(s).

2.E.3. Size. The combined length and width, including any edge guard and butt cap, shall not exceed 24 inches (60.96 cm). The paddle length cannot exceed 17 inches (43.18 cm). There is no restriction on paddle thickness.

2.E.4. Weight. There is no restriction on paddle weight.

2.E.5. Alterations. Altered paddles must meet all specifications.

2.E.5.a. Player alterations or additions to a commercially produced paddle as certified, may include items such as edge guard tape/replacements, weighted tape, weights for an Original Equipment Manufacturer (OEM) integrated weight system, changes to the grip size via inserts, grip wraps, OEM interchangeable grips, OEM replacement paddle faces, and name decals and/or other identification markings on the paddle face.

2.E.5.b. Decals and tape can extend no farther than 1.0 inch (2.54 cm) above the top of the grip nor more than 0.5 inch (1.27 cm) inside the outer edge of a paddle or, if an edge guard is in place, 0.5 inch inside the edge guard.

2.E.5.c. The only permissible handwritten pen markings allowed on the paddle's playing surface must be for identification purposes only (name, signature, phone, email address) or an autograph. No aftermarket graphics are allowed on a commercially made paddle.

2.E.6. Prohibited Surface Features and Mechanical Features.

2.E.6.a. Anti-skid paint or any paint textured with sand, rubber particles, or any material that causes additional spin.

2.E.6.b. Rubber and synthetic rubber.

2.E.6.c. Sandpaper characteristics.

2.E.6.d. Moving parts that can increase head momentum.

2.E.7. Model Designation. The paddle must have a manufacturer-provided and clearly marked brand and model name or model number on the paddle. The brand and model information may be shown on the paddle by a manufacturer affixed decal.