

NCAA SOFTBALL BAT COMPLIANCE

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Batology Presentation
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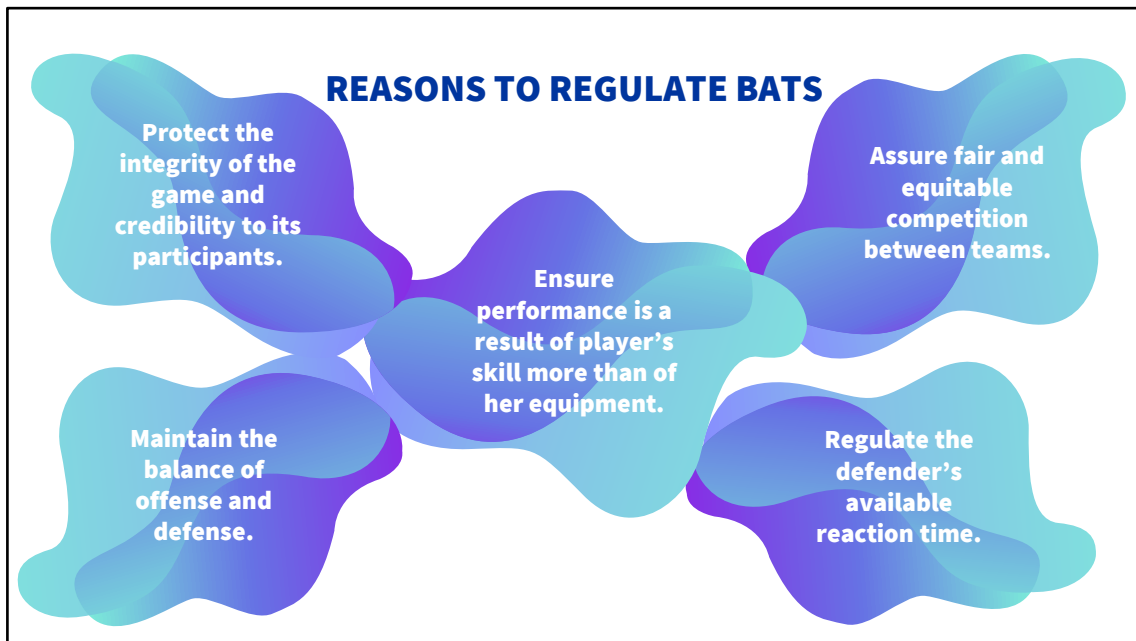
Welcome to a brief presentation on the NCAA Softball Bat Compliance Program with an emphasis on the barrel compression testing...referred to as BCT.

Before we dive into the details on how to perform BCT, let me quickly explain the goals of the entire compliance program and where barrel compression testing fits into the big picture.

Following that theory are the details for executing BCT.

Note that the NCAA Softball Playing Rules REQUIRE BCT occur prior to play in tournaments, series, doubleheaders and single games. No stickers = illegal bats = no game.

Finally, at the end of the presentation is an easy-to-use flow chart suitable for printing and putting in the bat testing fixture case for reference on the bat testing responsibilities.



On behalf of the NCAA Softball Rules Committee, I want to thank you for your diligence in helping monitor the appropriateness of bats used in the collegiate game. Several years ago, there was significant concern about the impact various bat models were having on our game and thus the NCAA Softball Bat Compliance Program was created.

The five goals listed here are the foundation of that program.

- 1) To protect the integrity of the game and the credibility to its participants;**
- 2) To assure fair and equitable competition between teams;**
- 3) To maintain the delicate balance of offense and defense;**
- 4) To regulate the defender's available reaction time and therefore minimize injury risk; and**
- 5) To ensure a player's performance is a result of the player's skill more than of her equipment by eliminating rogue bats.**

OVERVIEW OF THE NCAA SOFTBALL

BAT COMPLIANCE PROGRAM



To address those goals, a five-prong approach was created.

The first and second are the responsibility of the coach. The first is the requirement that bats used in NCAA competition must be USA Softball certified.

And the second is the model must be included on the current NCAA Approved Softball Bat List.

The third is the one we are going to concentrate on today -that is, Barrel Compression Testing which is done PRIOR to games, tournaments and daily in every tier of the NCAA post season.

The fourth is to provide a safety net for the opposing team by having umpires perform a pre-game inspection of bats for BCT verification (i.e. the appropriate sticker) and their suitability (that is, not damaged) prior to every game.

The fifth is post-competition compliance testing done in a lab on bats that both pass and fail BCT to confirm the test's validity as a predictor of compliance with the batted ball speed standard.

The generic term "bat testing" could refer to either of these last two prongs but remember BCT is done locally and PRIOR to competition and lab testing is done at the Sport Science lab AFTER competition.

PRIOR TO THE START OF THE SEASON, HOST ADMINISTRATIONS MUST SECURE A BCT FIXTURE AND HAVE PLANS FOR EVERY COMPETITION OTHER THAN THOSE USING NCAA ASSIGNED BAT TESTING MANAGERS

Individual conferences and tournaments must establish protocols to include, at a minimum...

source of distinctive stickers to indicate bats have passed BCT;

the disposition of bats surrendered following BCT failure;

and when, where and by whom BCT will be performed.

Prior to the season, host administrations must secure a BCT fixture and have the following plans for every competition with the exception of those using NCAA assigned bat testing managers.

First, prior to the start of the season, each institution is responsible for acquiring the appropriate number of distinctive stickers to be used on bats that pass barrel compression testing for individual competitions.

Second, prior to competition, the disposition of bats that are surrendered following BCT failure, needs to be established and communicated.

Finally, the time, location, and bat testing manager for BCT should be communicated to both coaches in a timely manner but no later than 48 hours before game time.



STICKER PLANS

Stickers for single-opponent competitions are typically provided by each team as each places its stickers on the passed bats of their opponent.

Tournament hosts should provide stickers distinctive to the event and secure them from all teams. Alternatively, they may inform competing teams they will be responsible for providing stickers for their opponents.

Coaches must acquire enough stickers to accommodate use on every passed bat for either their opponents or for all events they host.

Stickers need not be the same event to event but must be distinctive each day of a multiday event if BCT occurs daily.

In tournament settings, the host may provide distinctive stickers for all teams in the event.

Alternatively, stickers may be used from teams competing in their first game. This process can also be used in a tournament as long as teams are notified as to the number of teams requiring their stickers.

NCAA APPROVED SOFTBALL BAT LIST

Planned postings of the NCAA Approved Bat List will be the 2nd Monday in December 2023, April and August 2024; additional bats will post when model(s) must be immediately removed. Information new to the list is noted in blue font.

Summary of strikes assessed to models currently on the NCAA Approved Softball Bat List:
 1 strike each - Demaris CFF34-19_CFF34-21 & F29-20; Dory South F53W05; Mizuno 340500, 340531, 340556, 340606, & 340651
 2 strikes each - Easton FP18GH10*** Mizuno 340554

BARREL COMPRESSION TESTING MINIMUMS: ALL BATS MUST MEET A MINIMUM OF 150PSI EXCEPT THE FOLLOWING MODELS WHICH ARE SUMMARIZED BELOW AND NOTED ON THE APPROPRIATE LINES AND PAGES OF THE CURRENT NCAA APPROVED SOFTBALL BAT LIST

Current Models: *Prizm & custom F27-20, 21, 22; 21, F29-19, 20, 21 & 29-20psi minimum; **Allige series-110psi minimum
 Easton Models: *Oxet EF94GHAD, FP21GHADG4T0, FP22GH & FP22GHAD series, FP22GHF10, and FP22GH4H10, FP22GH10, FP22GH, FP22GHJ series-90psi minimum
 ****Oxet FP18GH, FP22GH, FP22GHAD series & FP22GHCAN10, FP22GHSN10, FP22GHADGLD-100psi minimum
 ****Oxet EF92GH10, EF94GHAD & 10, FP22GH & 10-100psi minimum
 ****Louisville Slugger: ***LXT, P21, D21 & 23D series-140psi minimum; 6070 & META series-90psi minimum
 ****Mizuno Models: ****PR C9N (340527, 340528, 340529, 350551, 350552, 340553, 340603, 340604, 340605)-140psi minimum
 ****Morris Model: ****FP94GH & 24FP910-130psi minimum
 ****Rawlings Models: ****MANTRA (FP18B10 & RFP18B10)-110psi minimum; MANTRA 3.0 (RFP18B11)-120psi minimum
 ****MANTRA PLUS (RFP18PS10 & RFP18PS10)-100psi minimum

Barrel Compression Testing and Pregame Inspection Information:

Bat Testing Manager Name (s) _____

Day One Sticker Color _____ # Passed Bats _____ Date _____ Umpire Initials _____ # Bats Presented & Approved _____

Day Two Sticker Color _____ # Passed Bats _____ Date _____ Umpire Initials _____ # Bats Presented & Approved _____

Day Three Sticker Color _____ # Passed Bats _____ Date _____ Umpire Initials _____ # Bats Presented & Approved _____

FOR NCAA GAMES-Disqualified bats MUST be reported via the Noncompliant/Inappropriate Bat Report found on www.ncaa.com (under governing body choose NCAA, scroll down to softball banner and select the form).
Bat testing managers MUST file the report for failed bats including the actual BCT readings; umpires MUST complete the form for bats disqualified for damage.

Failed BCT Information:

Date	Manufacturer	Model Number	BCT Readings	Bat Manager Initials

Disqualified Damaged Bat Information:

Date	Manufacturer	Model Number	How (e.g. break, crack, hole, delamination, warp, missing compression)	Initials

FOR ALL COMPETITION:

The responsibility for legally equipping the team rests with the coach regardless of if the bats are team or player owned, purchased or gifted.

In addition to presenting legal bats at testing, coaches must provide the first page and all relevant pages of a current NCAA Approved Softball Bat List that has their presented models highlighted and indicates the number of each in the first column.

The redesigned bat list includes a new multi-color section to enter the information for use by the bat testing manager and umpires to detail bats that are disqualified and those that are appropriate for competition.

As in the past, a summary of all backstop style models with an exception to the 1550psi is provided at the top of the first page in a blue box for the convenience of the bat testing manager.

THE BASICS OF

BARREL COMPRESSION TESTING

Barrel compression testing is a simple predictor of bat performance.

In general, a reading of 1550 pounds per square inch (psi) is the minimum standard because it correlates to the maximum allowable batted ball speed of 98mph.

However there are approved lower minimums for “backstop style” models as noted on the NCAA Approved Softball Bat List.

The basics of barrel compression testing is that it is a simple, reasonably accurate predictor of bat performance. A portable fixture is used to apply pressure to the bat barrel to measure barrel stiffness in specific locations.

In general, there’s a linear correlation between the softness of the bat barrel and the exit speed of a batted ball.

Meaning if the barrel is stiff, the batted ball speed is likely slower than the 98mph standard and if it is soft, the batted ball speed is likely faster.

So a reading of 1550 pounds per square inch (psi) is the minimum standard of stiffness, as measured with this testing unit.

However, due to unique construction of “backstop style” models, there is a process for manufacturers to be granted a lower psi minimum as noted on the NCAA Approved Softball Bat List. Note-this is a number exception NOT an exception to being tested.

PREP BY COACHES

PRESENT EVERY BAT

Bats without the appropriate sticker will not be allowed in team areas.

ANNOTATED BAT LIST

Highlight the models presented and indicate the number of each that will be tested.

LINE UP BATS

Arrange the bats in the order in which they appear on the NCAA Approved Softball Bat List.

G
E
T
T
I
N
G
S
T
A
R
T
E
D

PREP BY TESTERS

LOCATE ALL TESTING MATERIALS

Case with fixture, cylinder, stop stick plus tape and pen to identify failures and stickers.
If applicable- postseason notebook with log sheets.

CALIBRATION TRIAL

Insert and compress cylinder to confirm reading matches the load printed on it.

STOP STICK

Insert stop stick from preferred side until it is flush with far side then tighten set screw.

So let's talk about getting started in barrel compression testing. Prior to testing, coaches must gather all the bats they wish to have available for use. At the designated time, coaches must present their annotated bat list and should arrange the bats in the order in which they appear.

Note- coaches need not present the entire NCAA Approved Softball Bat List...only the first page and all additional relevant pages.

If testing is done daily, there is flexibility to present different bats daily but if testing is for an entire series or tournament, there is only one opportunity to present bats for testing.

Also prior to testing, the bat testing manager must ensure that all the necessary materials are present, test the fixture to ensure it is calibrated correctly and secure the stop stick to the BCT fixture for ease in testing the approximate sweet spot of the bat.

THE PROCESS



VERIFY BAT MODELS

Model numbers on the bat must exactly match those on the list.



DISQUALIFY OBVIOUS DAMAGE

Don't waste your time testing obviously damaged bats.



COMPRESSION TEST

Test until the bat passes or fails twice, whichever happens first.



FOLLOW-UP

Sticker bats that pass; retain failures and delete them from bat list.

Let's briefly talk about the process of barrel compression testing. There are four distinct parts:

The first is the bat testing manager must verify the model number on each bat EXACTLY MATCHES the model numbers on the annotated NCAA Approved Softball Bat List before continuing.

The second is to disqualify any bat with significant damage such as cracks and damaged end caps .

Next, compression test all bats that survive until each one has two passes or two fails, which ever happens first.

Finally, follow-up the test by applying a sticker to each bat that passes and retain possession of failed bats while amending the provided bat list to reflect those failures.

Let's go into detail on each part...

VERIFY BAT MODELS

Using the coach-provided NCAA Approved Softball Bat List, the model numbers on the bats must exactly match.

Disqualify those bats that do not match the list or are illegible.

The number of bats of each model are totaled and the bat testing manager completes the paperwork.



Returning to the first step...

Although by rule, coaches are responsible for legally equipping their teams, verification is the responsibility of the bat testing manager.

It is essential that testing only occurs on bats with legible model numbers and letters that exactly match models on the current NCAA Approved Softball Bat List. If the model number on the bat is illegible, it is excluded.

Finally, check to ensure the most current list is provided and that it appropriately documents what is presented for testing before totaling the team's bats and completing the information in the lavender box of page one.

DISQUALIFY DAMAGED BATS

even though umpires will check each bat for suitability prior to each game.



Damage like the examples shown here, disqualifies the bat from testing. There's simply no need to waste time since these bats are obviously inappropriate.

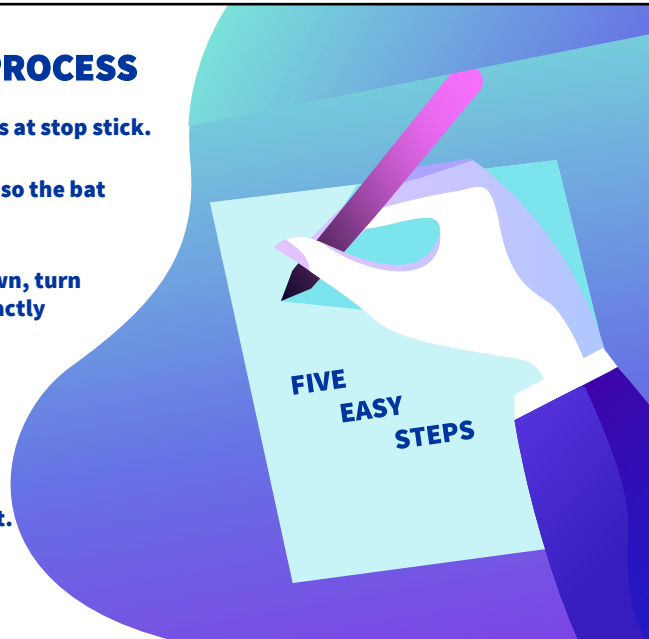
Once a damaged bat is disqualified, amend the provided NCAA Approved Softball Bat List and return the bat to the team at this time (i.e. without testing or stickering).

Note- because bats can sustain damage at any time and will be used for batting practice and warm-ups between BCT and the game or games for which the round of testing is done, the umpire crew will continue to check every bat for damage immediately prior to each game.

The bat testing manager's role in this process is only to disqualify the obviously damaged bat that need not be tested.

COMPRESSION TEST PROCESS

- Insert bat into chamber until it stops at stop stick.
- Place the cylinder under the handle so the bat remains level.
- Making sure the lever is pointed down, turn the pressure gauge until it reads exactly 500 psi (called preload).
- Lift the handle and make a mental note of the reading before releasing the lever. Release the pressure.
- Rotate the bat 90 degrees and retest. If a third test is needed, rotate the bat 45 degrees for the final test.



So now to the test itself...finally!

The first step is to insert the bat until stopped by the stop stick. This will position the bat for testing at the approximate sweet spot.

Next, level the bat by placing the cylinder under the handle. *Tip- place something under or around the cylinder to prevent it from rolling away between bats.*

With the fixture handle pointing downward, rotate the pressure gauge until it preloads to 500psi.

Then lift the fixture handle to obtain the first reading.

Drop the handle and loosen the pressure gauge in order to turn the bat 90 degrees to retest.

If the results are the same, that is, both pass or both fail, that's the final result. If they differ, a third test result becomes final.

**BACKSTOP STYLE BATS HAVE
SPECIFIC PSI MINIMUMS NOTED ON THE
APPROPRIATE PAGES AND
SUMMARIZED ON THE
FIRST PAGE OF THE CURRENT
NCAA APPROVED SOFTBALL
BAT LIST...**

**DeMarini
Prism & Whisper
models**

**Rawlings
Mantra models**

**Easton
Ghost models**

**Monsta
Hype & Fulcrum
models**

**Louisville
Slugger
Xeno, LXT, RXT,
Kryo, & Meta
models**

**Mizuno
PWR CRBN
models**

As noted earlier, most bat models must register at least 1550 pounds of pressure on the pressure gauge to pass.

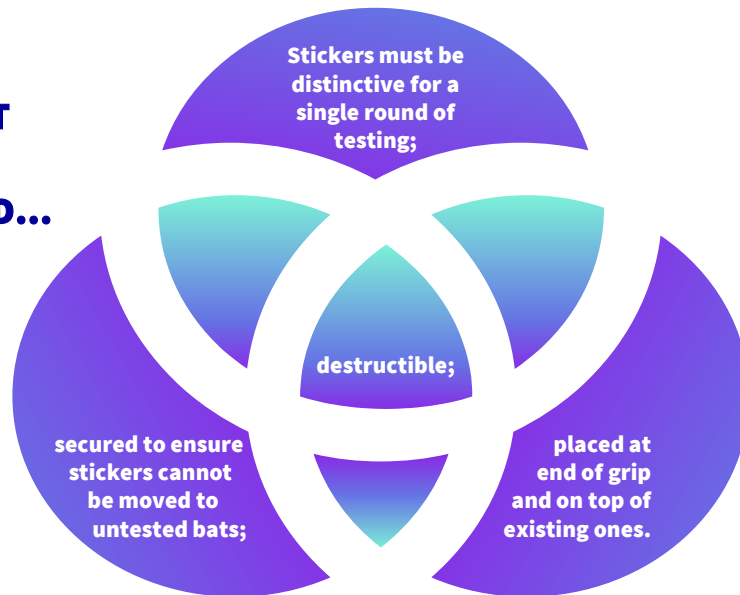
However, there are documented exceptions referred to as “backstop style” bats. Collectively, they are listed on the first page of the NCAA Approved Softball Bat List for the bat testing manager’s convenience.

The exact applicable psi minimum is also individually noted on the line of each appropriate model on the bat list .

There are two schools of thought on dealing with backstop style bats with lower BCT minimums. One is to keep the list of exceptions at the fixture while testing and check it as each bat is inserted. The other is to test the bat and if the reading is less than 1550psi, then consult the list to verify the model’s approved exception.

Either way, if the gauge registers less than the required psi for that model, it is a failed test.

BATS THAT PASS ARE STICKERED...



Bats that are sufficiently stiff and therefore pass are then stickered.

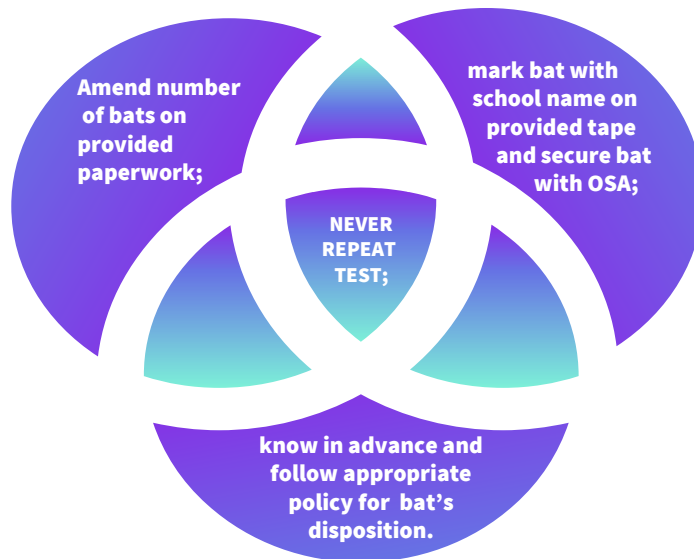
Note that stickers are destructible and cannot be repositioned nor reapplied.

If there are already stickers on the bat, placing them on top of old ones is preferred and if there are no stickers at the time of testing, the sticker should be placed at the bottom of the grip whenever possible.

If the handle has a rough finish, the sticker may need to be placed on the bottom of the grip to stick.

Typically, teams provide stickers that are then placed on the bats of their opponents but a specific stickers may alternatively be supplied by the host or a conference.

BATS THAT FAIL ARE DISQUALIFIED...



Failed bats should be identified with the school that owns it using athletic tape and then secured by administration. The exact disposition of the bat is determined by the testing group during the season... sometimes a conference, sometimes a tournament or the NCAA.

In the post season, the NCAA protocol is the bat is sent for further evaluation-NEVER returned to the team on site.

The team's NCAA Approved Softball Bat List or log sheet is appropriately modified to reflect the number of bats passed.

One quick additional comment on failed bats- if, as the bat testing manager, you want to demonstrate the failed score to the team representative, it should be done on every lever pull that results in a failed number. Never take the bat out of the fixture and later reinsert it to demonstrate the failed score.

Unless the bat is reinserted exactly in the same position, there's a possibility of getting a slightly different reading which may lead to a conflicting result.

NCAA POSTSEASON TESTING NOTES

The postseason notebook contains:

- detailed BCT fixture set-up information;
- responsibilities of coaches;
- responsibilities of NCAA site representative and host tournament director;
- log sheets for each team;
- daily stickers envelope; and
- a return ship label.

Host tournament director is responsible for return shipping failed bats and notebook with the unused stickers and all the completed log sheets.

NCAA Bat Compliance Log Sheet

Coach _____
Test Site _____
Date(s) _____

Institution _____
Coach's email _____
Coach's cell _____
Tester's Name _____

Manufacturer (NCAA Bat List alpha order)	Model # (NCAA Bat List numerical order)	Day 1	Day 2	Day 3	Day 4
		# Passed	# Passed	# Passed	# Passed

FAILED BAT INFORMATION: FAILED BATS ARE SURRENDERED TO TESTER. USE OTHER SIDE FOR ADDITIONAL FAILURES.

Manufacturer	Model #	Failure Date	Failure Side	First BCT Reading	Second BCT Reading	Third BCT Reading	Notes (if needed)

POP _____ of _____

TOTAL PASSED _____ TOTAL FAILED _____

Before we wind this up, let me just quickly summarize a few key points unique to NCAA postseason barrel compression testing.

Similar to the regular season, host institutions are responsible for providing the BCT fixture in the postseason.

The postseason notebook sent to each site has a document with step-by-step instructions and pictures for setting up the fixture, log sheets, stickers and a copy of the detailed information for participating coaches, NCAA site reps and host tournament directors from the championship handbook for ease in administering the testing.

Following the completion of the final game at the site, the host tournament director is responsible for return shipping all the materials including the completed log sheets and any failed bats.

FINAL TIPS:

Because BCT has occurred prior to the pre-game inspection, umpires need only match the total number of bats annotated on the NCAA Approved Softball Bat List with the number of stickered bats.

If the numbers do not match, a traditional reconciliation of the individual models on the NCAA Approved Softball Bat List with the actual bats is required.

In addition to verifying the correct number of appropriate bats, umpires are responsible for checking all bats for damage .

Noncompliant/Inappropriate Bat Reports are required for all bats disqualified for damage at each pre-game inspection and for those failing in-season barrel compression testing. In the post season, bats failing BCT need only be noted on the log sheet.

A few final thoughts-

First, because BCT has occurred, the pregame inspection of bats by umpires is shortened to confirming the number of stickered bats matches the number of bats on the team's NCAA Approved Softball Bat List and checking for damage. If the numbers do not match, the umpires must revert back to their traditional matching of each bat model to the NCAA Approved Softball Bat List. In all cases, umpires shall correct the paperwork.

I can't stress enough how important the bat testing manager is in this process of only testing appropriate bats.

Second, noncompliant/inappropriate bat reports from the Ref Quest website must be completed for all bats failing in-season BCT or that are removed by umpires for damage.

They are not necessary for bats disqualified by failed BCT in the postseason as those failures are noted on the log sheets returned at the end of the tier.

Mandatory NCAA On-Site Portable Barrel Compression Testing (BCT)

Key to responsibilities:

Host - black font;

Team Representative - green font;

Umpire - blue font;

Bat Testing Manager - red font.

1. In advance of season - Obtain portable BCT fixture; Procure stickers distinct by team or by event; Create and communicate testing plans including frequency, time and location for testing and disposition of failed bats for both conference and non-conference competitions. In addition, create contingency plans to ensure testing will occur... for example, back-up fixture (perhaps asking visiting team to travel theirs), more than one person trained to be the bat testing manager, extra stickers in case visitors forget theirs.

2. Highlight and enter numbers of each model on the NCAA Approved Softball Bat List. Bring team stickers for opponent's bats (if applicable). Attend BCT at the predetermined time. Arrange bats in bat list order. If applicable, place team stickers on opponent's passed bats. Following testing, retrieve team's list and bats.

2. Assemble and calibrate fixture. Match the model number on each bat to the bat list. Return bats not on the NCAA Approved Softball Bat List, with illegible model numbers or those with obvious damage at this time. Compress each bat until it passes or fails twice paying attention to back-stop style exception minimums. Sticker or witness sticker of bats that pass twice. Disqualify bats that fail twice, identify them with the team's name prior to securing them from the team, and appropriately amend bat list. Complete lavender section of first page of bat list.

3. Secure failed bats from the bat testing manager, securing them until team departs.

3. Present only stickered bats (preferably in order) and NCAA Approved Softball Bat List to umpires at dugout for inspection.

3. Verify the number of presented bats equals the number of bats in the game column of the relevant pages of the NCAA Approved Softball Bat List AND equals or is less than the total listed by the bat testing manager in the lavender box of page one. If not, amend the list to the number of stickered bats. Inspect the bats for appropriateness, remove those with damage and amend the bat list. Secure disqualified bats with on-site administrator.

4. Obtain disqualified bats from the umpires, securing them until team departs.

5. Request BCT failed bats (in-season only) and those removed for damage from the on-site administrator when departing the facility for the final time.

6. In the event one or both teams has no bats passing BCT and therefore stickered, call the head coaches together to inform them the game will not be played.

7. Following the game, complete the electronic Noncompliant/inappropriate Bat form for bats disqualified for damage.

7. Following the game, complete the electronic Noncompliant/inappropriate Bat form for bats failing BCT.

This slide is a one-page flow chart depicting the responsibilities of each of the participants in barrel compression testing.

Responsibilities for the host are listed in black font;

For the team representative in green font;

For umpires in blue font; and

For the bat testing manager in red.

This slide is available for download on the RefQuest website and is a great one-page summary to print and place in the bat testing fixture carrying case.



Once again, on behalf of all those who compete in or enjoy college softball, thank you for your time and efforts in this important undertaking.

Feel free to print this tutorial and place it in your team’s BCT case for quick access.

For questions regarding the BCT fixture or the NCAA Bat Testing Program or Process, use the contact information noted here.

For more detailed information on NCAA Softball Bat Testing, the document titled “NCAA Softball Bat COMPLIANCE and Testing INFORMATION” is posted on RefQuest.com.