

**From:** Elias, R. 2004. You're Never Too Young to Dream: The Craftsmanship of Baseball Bats NINE: A Journal of Baseball History and Culture 12:123-129

Major Leaguers subscribe to an amazing array of theories about what kinds of bats work best. Besides particular kinds of wood, they have different preferences for shapes and textures. Practically nobody uses the old-fashioned bottle bats or the tapered "telephone pole" bats (as we used to call them as kids). Most players want thinner handles and also shorter and lighter bats—generally thirty-three to thirty-four inches and thirty-two to thirty-four ounces. Gone are the days of the huge bats wielded by such ballplayers as Hack Wilson or Ernie Lombardi, or even Richie Allen, more recently. According to Robert Adair in his book *The Physics of Baseball*: "Bats with thicker handles and bats with longer barrels have longer vibration-free zones of good hitting and are broken less easily by inside pitches." Nevertheless, today's players want a quicker bat speed to catch up with Major League fastballs. Moreover, some of them try to increase torque by honing their bat handles. As a result we see a lot more cracked bats.

**From:** Smith, L. V. 2001. Evaluating baseball bat performance. Sports Engineering 4:205-214.

Three test methods are commonly used to evaluate bat performance. The first method involves pitching a ball toward a swinging bat, NCAA (1999). This is the most difficult test to perform of the three methods and requires accurate positioning of the bat and ball, timing of their release and control of their speed. The NCAA currently uses this type of test to certify bats for collegiate play. A second method involves pitching a ball toward an initially stationary bat. This has been accepted as an ASTM standard, ASTM (American Society for Testing and Materials) (2000). This test is much simpler to perform than the NCAA test, since bat speed and timing do not need to be controlled. The method requires measurement of the bat speed after impact, however, which can be difficult to discern from its vibrating response.