



MICROSTAMPING TECHNOLOGY

Support for California Assembly Bill 2847

Overview: Microstamping is a powerful crime solving tool for law enforcement that can allow police officers to quickly solve gun crimes, and prevent gun violence within communities most impacted by unsolved shootings, and daily gun violence. AB 2847 will help incentivize firearm manufacturers to incorporate microstamping technology into firearms sold in California. The Coalition to Stop Gun Violence supports AB 2847 and urges lawmakers to pass the bill.

What is Microstamping?

Microstamping is a ballistics identification technology that can allow police to quickly link cartridge cases found at crime scenes to a specific firearm. This technology works in a similar manner to how police can use a license plate to identify the make, model, VIN and registered owner of a car. Microscopic identification codes are engraved into the firing pin of each firearm. When the gun is fired, these codes are stamped onto each cartridge case. The codes correspond with the firearm's serial number, allowing law enforcement to collect cartridges from crime scenes, connect the microstamped codes to the firearm used in the shooting, and develop leads within a matter of hours. While this technology is readily available, and required in new models of handguns sold in California, manufacturers have thus far withheld from producing firearms equipped with this crime-solving technology.

How Effective is Microstamping?

Over the past 25 years since microstamping was first invented, engineers and researchers have proven that the technology is a reliable and consistent ballistics identification tool. Multiple peer-reviewed studies have found that microstamping marked accurately through thousands of rounds of firing across a variety of different firearm models. These studies found that microstamped codes were legible on over 95% of cartridge cases tested.^{1 2}

How is California Impacted by Gun Violence?

Our country continues to experience unacceptably high rates of firearm violence, with interpersonal violence concentrated in American cities. California alone experiences an average of 1,361 firearm homicides every year.³ The majority of this violence is geographically concentrated in a handful of cities and is exacerbated by low homicide clearance rates. This is true in California where the three cities with the highest per capita homicide rates - San Bernardino, Oakland, and Stockton - have abysmally low clearance rates.⁴ In San Bernardino and Stockton, 6 out of every 10 homicides that occurred over the last decade remain unsolved, and in Oakland, police were unable to make arrests in 54% of all homicides.⁵



How Will Microstamping Reduce Gun Violence?

Solving shootings and bringing justice to the families and friends of the victim is vital to interrupting cycles of retaliatory gun violence in impacted communities. Microstamping has the potential to help resolve the crisis of unsolved murders and daily gun violence in California. It can help law enforcement officers to quickly identify leads without recovering a firearm. Likewise, this technology will allow law enforcement to accelerate the traditional ballistics identification process which, in its current state, can take months. Microstamped shells can be examined under a simple microscope and the codes identified within minutes. Codes can be quickly linked to a specific firearm and matched to other shootings where the same firearm was used.

How Has the Firearm Industry Avoided California's Microstamping Requirement?

For the past fifteen years, the Coalition to Stop Gun Violence has advocated for firearm manufacturers to adopt microstamping technology and for policymakers to pass microstamping requirements. In 2007, the California State Legislature passed a microstamping bill that required all new models of semiautomatic pistols sold or manufactured in California be equipped with microstamping technology.⁶ Since the bill's requirements only apply to new handgun models, the gun industry has effectively boycotted this law by refusing to offer new handgun models for sale in California. Simultaneously, gun rights groups and the firearm industry have tied the legislation up in drawn out court battles. To date, not a single firearm manufacturer has incorporated microstamping technology into their firearms.

What does Assembly Bill 2847 Do?

AB 2847 eases compliance by requiring that newly developed semiautomatic pistol models engrave microstamping characters on one place on the interior of the firearm, rather than two places as required by the current law. Additionally, AB 2847 also directs the Attorney General to remove three previously grandfathered handgun models from the roster for each new compliant handgun model that is introduced.

Why is Assembly Bill 2847 Needed?

While the Coalition to Stop Gun Violence maintains that it is technologically feasible - as demonstrated through numerous prototypes and test firings - to engrave microstamping characters on two sections of the firearm, we support AB 2847's easing of the compliance requirement established previously by AB 1471. We believe that AB 2847 provides the best approach to incentivize manufacturers to adopt microstamping technology, spurring competition between manufacturers, and rewarding the manufacturers that bring microstamped firearm models to market.

¹ Lizotte TE, & Ohar O. (2008). Forensic firearm identification of semiautomatic handguns using laser formed microstamping elements. *SPIE*.

² Ohar, OP, & Lizotte TE. (2009). Extracting ballistic forensic intelligence: microstamped firearms deliver data for illegal firearm traffic mapping – technology, implementation and applications. *SPIE*.

³ Centers for Disease Control and Prevention. Firearm Homicides Deaths. Five-year average (2014-2018). California. WONDER Online Database, 1999-2018.

⁴ 2018 per capita homicide rates as reported [American Violence.org](https://www.americanviolence.org/). *Marron Institute of Urban Management. New York University*; And Mirabile F. & Nass D. (2019). [What's the homicide capital of America? Murder rates in U.S. cities ranked](https://www.thetrace.org/2019/04/whats-the-homicide-capital-of-america-murder-rates-in-u-s-cities-ranked/). *The Trace*.

⁵ Lowery W, Kelly K, Mellnik T, & Rich, S. (2018). [Homicide database: Mapping unsolved murders in major U.S. cities](https://www.washingtonpost.com/news/energy-environment/wp/2018/05/08/homicide-database-mapping-unsolved-murders-in-major-u-s-cities/). *The Washington Post*.

⁶ Crime Gun Identification Act of 2007. CA AB 1471. (2007).