



Clamshell Safety Standards Evolve

by Rob Weidhaas, Jr., My Press Needs LLC

Long a staple of the diecutting industry, clamshell presses are seeing a resurgence. Their versatility and speed are being rediscovered as printers, converters and finishers worldwide look for ways to increase productivity, reduce costs and enter new markets. In most plants today, the emphasis is on quick turnaround, and the reliable clamshell press remains the most efficient and profitable short-run solution. And, what's not to love about profitability?

As clamshells' efficiency and reliability are being rediscovered, so too are their upgraded safety features. In the early days of the 1950s and '60s, clamshell presses had limited or no safety devices. But, like many products used every day – cars, appliances, electronics – the clamshell has evolved.

Today's presses are a far cry from their predecessors, with new safety technology that cements their role in the industry. All new presses have standard safety devices that quickly and safely stop press action, including the following:

- Safety relay circuitry that creates redundancy in the safety circuit
- Keyed switches and sensors
- Laser scanner technology on large presses

Relatively new on large clamshells, lasers scan the moving platen area and prevent press action if the operator is in the hazard area. Because an operator may not be able to reach a traditional mechanical safety device while adjusting the die in a 60x120" "jumbo" clamshell, the laser scanner makes large presses very safe to operate without interfering with productivity.

ANSI or OSHA

Clamshell safety advances are a result, in part, of changes in domestic and international safety standards. ANSI (American National Standards Institute) and OSHA (Occupational Health and Safety Administration), along with international organizations like CE, GS, ISO and others (see descriptions on page 12), are responsible for developing, overseeing and certifying safety standards.

In the US, ANSI oversees the development and use of thousands of voluntary consensus safety standards for all types of businesses. ANSI's Standard B65-1:2011 Part 1 provides general safety requirements for machinery, while B65-5:2011 Part 5: Stand Alone Platen Presses provides specific guidelines for new and existing stand-alone mechanical platen presses, as well as installations and modifications. It was the first safety standard aimed at reducing injuries to people in contact with stand-alone mechanical platen presses and was an opportunity not only to improve clamshell safety, but also to protect the industry.

The B65-5 Standard gave the clamshell industry clear-cut safety requirements, establishing the standard for press controls, guarding and operating procedures. No "grandfather" clause is included, meaning all older presses had to comply. In 2011, ANSI updated B65-5 to include requirements of laser scanners for presses over 1M; stopping distance of 120mm (4.72") and redundancy of relays, keyed switches and other safety devices.

Although ANSI standards are voluntary and the organization has no legal authority, OSHA does. OSHA regulations are not specific to clamshell presses, but fall under general machine standards. These include the following:

- 29 CFR 1910.212: General Requirements for All Machines, including 1910.212(a) – Machine Guarding. This regulation covers point of operation guarding.
- 29 CFR 1910.147: Control of Hazardous Energy (lockout/tag out). This standard requires the use of lockout/tag out procedures while performing maintenance.

OSHA bases a large number of its regulations on ANSI and recognized industry standards. That can leave the clamshell industry wondering: Who comes first, ANSI or OSHA? And, is ANSI truly voluntary? The answers are as follows: Both, and yes and no.





OSHA answers the questions this way via 1910.212 (a)(3)(ii):

“The point of operation of machines, whose operation exposes an employee to injury, shall be guarded. The guarding device shall be in conformity with any appropriate standards therefore, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle.”

Although a standard may be voluntary, OSHA expects conformity. Proactive clamshell manufacturers, rebuilders and owners realize that adherence to ANSI standards protects press operators and their companies.

Converging standards

As the global economy continues to expand, domestic and international safety standards are merging. ANSI is the sole US member of ISO and helps coordinate US and international standards. Some of the key international certifying organizations are as follows:

- CE – CE marking is a mandatory legal conformity requirement for all products sold within the European Union (EU) that fall within the scope of a CE marking directive. Machinery is included in that directive. CE marking shows that a product meets EU safety, health and environmental protection requirements and complies with EU legislation.
- GS – This mark certifies that equipment meets German and European safety requirements. A voluntary certification, the GS mark indicates to users that a product has been tested by an independent third party. For manufacturers, the mark shows their products are safe, legal and high quality.
- ISO – The most familiar organization to manufacturers, ISO is the world’s largest developer of voluntary international standards. Often demanded by purchasers, ISO certification indicates a manufacturer’s commitment to provide high-quality, safe products.

With so many organizations involved domestically and worldwide, safety standards can be confusing. If the

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clamshell industry complies with domestic standards, why do international standards matter? Because international certification creates a more level playing field.

Global standardizations eliminate technical trade barriers, giving manufacturers and customers more opportunities for expansion. CE certification, in particular, allows free movement of products within the European markets. To succeed in the global market, clamshell manufacturers need to comply with international safety standards.

Safe workhorse

For potential clamshell owners, worldwide safety standards provide clear guidelines when looking for new or used presses. New presses should meet ANSI’s B65 Standard and, preferably, CE standards. For used and existing clamshells, be sure the machine has a fail-safe air clutch/mechanical brake. Check parts availability and run a cost analysis if updating a current press. Clamshells have a long history of reliability and versatility. Their precision, fast makeready and ability to cut virtually any substrate, including Falconboard® and Re-Board®, make them the clear choice for profitable short runs. And with new safety standards and technology, this traditional workhorse now is safer than ever. ■

Rob Weidhaas, Jr. is the founder and president of My Press Needs (MPN) LLC. He has 25 years of experience in the converting industry, with an emphasis on clamshell press technology, and established MPN in 2000 as a diecutting resource to the print finishing, packaging and general converting industries. Today, the company specializes in the development, engineering and sale of clamshell presses worldwide, such as the Crest Clamshell. Weidhaas is an active member of several industry associations, including FSEA, SGIA, GPI, AICC and IADD, and he serves as an observing committee member for the ANSI B65 safety standard for stand-alone platen presses. For more information on MPN, visit www.mypressneeds.com.