

Safeguarding Machinery and Equipment

General Requirements

**Some Common
Safeguarding Applications:
Robots**



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The use of robots and robotic systems in manufacturing has become mainstream in large manufacturing operations such as the automotive industry, and their use in small manufacturing plants and niche operations will increase. Unauthorized entry into the working envelope of a robot exposes a worker to the potential for serious impact or crushing injuries from the unexpected movement of the robot.

The safeguarding of robots requires a **systems approach** to safeguarding. It typically uses a combination of fixed barrier fences, interlocked gates, and presence-sensing devices such as safety mats and light curtain devices. Figure 4.17 shows a typical robot work cell safeguarding system.

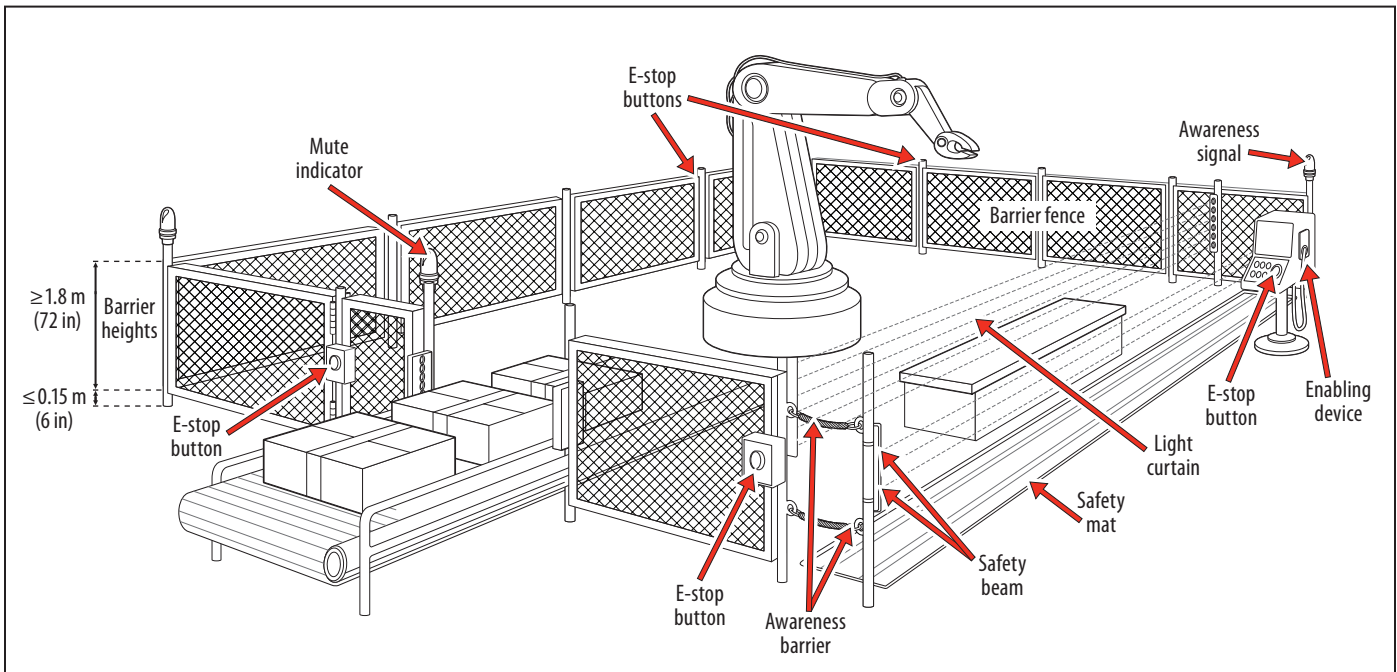


Figure 4.17. Typical robot work cell safeguarding system.

The OHSR requires that industrial robots and robotic systems be safeguarded according to the requirements of *CSA Standard Z434, Industrial Robots and Robot Systems — General Safety Requirements*. If your operation uses robots or robotic systems, you must refer to this standard to determine how to safeguard them properly.

The information in this section is provided for general application. Safeguarding of robots and robotic systems should be done only by qualified and experienced persons with a thorough knowledge of the applicable standard.