



Tanner White Paper Series

3M Personal Safety Division

ANSI/ISEA 121-2018 Dropped Objects Standard Published



For decades, leading causes of death on construction jobsites in the United States have been “Falls” and “Struck by Object” according to the Bureau of Labor Statistics (BLS). In 2015, the Occupational Health and Safety Administration (OSHA) recorded 364 deaths from falls (38.8% of the total construction deaths) and 90 deaths from being struck by objects (9.6% of the total construction deaths). That’s a total of 454 workers whose lives could have been saved with the right training and equipment. For more information, please see the link below.

<http://stopconstructionfalls.com/wp-content/uploads/2013/07/Fatal-and-Nonfatal-Injuries-from-Falls-in-Construction-2013-update.pdf>

According to the BLS, there are more than 50,000 “struck by falling object” OSHA recordable incidents every year in the United States. As EHS Today calculates, that’s one injury caused by a dropped object every 10 minutes on the job. For more information about the dangers of dropped objects and how to prevent them, please see the link here - <http://www.ehstoday.com/construction/sky-isnt-falling-and-your-tools-shouldnt-either>

519 WORKERS WERE FATALLY STRUCK BY AN OBJECT OR EQUIPMENT IN 2015

WHY IS THIS STANDARD SO IMPORTANT?

Statistics like these have driven the need to develop a standard with industry wide requirements for products designed to provide people and equipment protection from dropped objects. This new standard was originally developed by the International Safety Equipment Association (ISEA) with support from several leading dropped objects equipment manufacturers and has received final approval by ANSI to become an American National Standard.

WHAT IS ADDRESSED BY THIS NEW STANDARD?

This standard establishes minimum design, performance, testing and labeling requirements for equipment solutions that reduce dropped objects incidents in industrial and occupation settings. Dropped objects include hand tools, instrumentation, small parts, structural components and other items that need to be transferred and used at heights. These objects have the opportunity of becoming dropped objects potentially resulting in a struck-by injury or fatality or in damage to equipment. This standard focuses on preventative solutions actively used by workers to mitigate these hazards.

#3 CAUSE OF FATAL WORK INJURIES IN 2015

42,400 ÷ 365 = 116
RECORDABLES PER YEAR DAYS PER YEAR PER DAY

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Four Categories Established to Address Specific Solutions:

	Tool Tethers	Lanyards or materials designed to connect tools to approved anchor points.
	Tool Attachments	Attachment points designed to be field installed onto tools or equipment to provide appropriate connection points for tethering.
	Anchor Attachments	Attachment points designed to be field installed on structures, equipment or workers, to provide appropriate connection points for tethering.
	Containers & Bags	Devices designed to carry or transport tools and equipment to and from heights.

3M's recommends that all objects—whether they are people or tools—be protected from falls. Many other manufacturers, safety managers & professionals, agree with this direction. 3M is working closely with regulating bodies such as OSHA, ANSI and ISEA to help create regulations and a product performance standard for dropped object prevention.

Currently there is an OSHA General Duty Clause (Section 5(a)(1) requiring employers to maintain a workplace “free from recognized hazards that are causing or are likely to cause death or serious physical harm” to employees. OSHA’s criteria for issuing a General Duty Clause Violation include:

- There must be a hazard
- The hazard must be recognized
- The hazard causes or is likely to cause injury or death
- The hazard must be correctable

Additionally, OSHA requires that if you work in an environment where you’re at risk of being hit by something that falls, you must do the following:

- Secure tools and materials to prevent them from falling on people below
- Barricade hazard areas and post warning signs
- Use toe boards, screens on guardrails or scaffolds to prevent falling objects
- Use debris nets, catch platforms or canopies to catch or deflect falling objects.

Find Quick Tool Tethering Solutions at TannerBolt.com

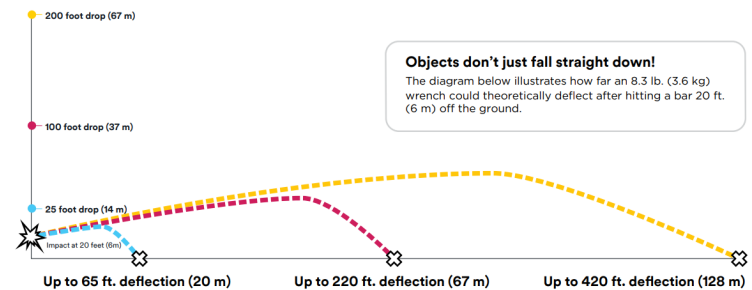
Direct Impact

Impact of an 8.3 lb. (3.6 kg) dropped wrench*

Drop Height		Speed		Impact Force	
Feet	Meters	MPH	KPH	Lbs.	Newtons
5	1.5	12	19	166	738
10	3	17	27	332	1477
25	7.6	27	43	830	3692
50	15.2	39	63	1660	7384
100	30.5	55	88	3320	14768
200	61	77	124	5540	29536
300	91	95	152	9960	44304
400	122	109	175	13280	59072
500	152	122	196	16600	73840

*Assumes a 3 in. (7.6 cm) deceleration distance for purposes of this calculation of impact force.

Falling Object Deflections





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TIMING:

The initial ISEA balloting period was completed & public commenting closed on March 26, 2018. On July 02, 2018, the American National Standard Institute approved the new standard designated "ANSI/ISEA 121-2018" for publication.

3M FALL PROTECTION FOR TOOLS:

3M™ DBI-SALA® Fall Protection for Tools attachment points, tethers and pouches/buckets are currently tested to confirm conformity with the rated loads as stated on the products and noted in the instructions. 3M utilizes calibrated steel test weights for all dynamic drop testing and uses calibrated test weights and/or calibrated tensile test equipment for static strength testing. All testing is performed in an ISO 17025 accredited Fall Protection lab and/or at an accredited 3rd party lab, in accordance with 3M test procedures, for validation of the rated capacity of the product. 3M is reviewing its current portfolio of Dropped Objects protective equipment in light of the publication of ANSI/ISEA 121-2018 in an effort to comply with the requirements of this new standard.



CONCLUSION

It is the responsibility of every safety manager, construction superintendent, overseer & worker to make sure they understand the dangers they face when working at-height. Fall prevention means preventing things from falling, whether they are people, tools or equipment.

For more information about a complete fall protection program, please visit [Tanner's Fall Protection Department](#)

TANNER IS HERE TO HELP:

Tanner wants to be sure that you and your fellow workers have access to the necessary tool drop & fall protection equipment to keep you safe and secure on the job site. The 3M™ DBI-SALA® & Protecta® Fall Protection Tool lines are the products and brands we trust in providing our customers with safety solutions for every need.

If there is a product you can not find or have any other questions about Fall Protection Equipment please be sure to contact one of our customer service reps and we will be sure you get the answers you need. **Phone: 800-456-2658 | Email: websales@tannerbolt.com**

For more information about a complete fall protection program, including tool tethering, lanyards, attachments, buckets & anchor attachment points please visit:

FALL PROTECTION



FALL PROTECTION FOR TOOLS



GENERAL SAFETY

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