

# Welcome to your

# **GfactorGO** Play

powered by TRIAX

This test device is intended to assist you in the management of your playground surfaces, sports field surfaces or any other impact attenuating system that is subject to a Standard referencing ASTM F1292, ASTM F355, F3313, and a 4.6kg hemispherical headform. The **GfactorGo** can be used for injury prevention measure and asset management. On the first drop the **GfactorGo** will give you the same value as a Triax2010, Triax2015 or TriaxTouch on the first drop.

The **GfactorGo** used in conjunction with a safety factor can let you know when to move the more rigorous tests that are written in formal standards should be performed. Since there are standards for each surfacing type, these should be the guide for the use of the **GfactorGo**. It is important to understand that the **GfactorGo** cannot be used to perform a formal test to determine critical height to ASTM F1292 or En1177 or the field testing in ASTM F1292 or F3313 because of the requirement for multiple drops from the same height to the same location on the surface. Keeping this in mind, the **GfactorGo** can be used to strategize in relation to a plan and future testing.

## **Determining acceptable test thresholds**

Using **GfactorGo** as a precursive test with ASTM F1292, field test or ASTM F3313 needs to start with the understanding that each material performs differently to a single drop and three drops from the same height to the same location. This is particularly the case with loose fill surfaces that can disperse when impacted. Sand or pea gravel for example can have wildly different g and HIC values from Drop 1 to Drop 3. At the other end of the surfacing spectrum are Poured-In-Place and Tiles, that typically have a relatively tight spread between the drops. Surfaces such as EWF depend on how well they are knit or compacted as to the closeness of the values, while loose rubber and synthetic turf depends on how easily the rubber moves.

To better understand how the surfaces you own and are testing with the **GfactorGo**, you can ask the supplier or installer to provide with either their ASTM F1292 or ASTM F3351 test results. Also, if the surface was formally tested to ASTM F1292 or F3313 when it was installed, the spread from drop 1 to drop 3 will be instructive. These can be used to arrive at a first drop value that you will accept as a threshold before you move to a the more robust test in the ASTM F1292 or F3313.

Since the 1000 HIC and 200g are minimum pass/fail thresholds, making sure the surface does not reach these values is important. As a result, the operator of the **GfactorGo** should select a g value less than 150 and the HIC value less than 750 for most synthetics but based on your knowledge of the surface systems you are testing.

## **The procedure for testing with the GfactorGo**

ASTM F1292-17 field test or ASTM F3313 require that the test be performed from the higher of the drop height selected by the owner/operator or the fall height of the play component within the protective surface zone. The drop height is to be physically measured and recorded. This can be done with a tape measure. Depending upon the height of the drop you might be able to perform the drop while standing on the surface. For higher drops you might reach out from the structure, but remember that you do not have a 6' (1800mm) arm and to do a good job you will have to climb a step ladder and perform the drop. Remember that the drop height will

be electronically recorded with each drop. The drop must be the same height or higher than required. *GfactorGo* does offer an optional laser drop handle to ensure you are higher than the required drop height.

The operator of the *GfactorGo* “eyeballing” the drop height



The operator of the *GfactorGo* determining drop height with the laser distance finder



1. Find the fall height or height above the drop height the test is to be performed from. In this example, for the structure, the owner has selected the drop height at the top of the barrier, while the drop height for the swings remains at the fall height of the pivot point as in ASTM F1487.
2. Measure and record the measured height.
3. Record the location and drop height for each drop location
4. Take the *GfactorGo* from the case and set up as per the user’s manual
5. Once the *GfactorGo* is assembled and ready for the drop
  - a. Elevate the *GfactorGo* holding the handle
  - b. Height can be determined by “eyeballing” (green line) the fall height and being above it or set the optional laser to determine the height of the *GfactorGo* above the surface
  - c. Once above the fall height (red line), release the *GfactorGo* by depressing the button
6. Review the data, save the data and advance to the next drop # and repeat the process at a new location

The drop test data can be uploaded to a PC and keep a permanent record of the testing. The *GfactorGo* manual will provide information of preserving the data and the micro SD card contains the software that can be loaded on a PC. The manual delivered with the *GfactorGo* will have detailed instructions on the procedures for operating.

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