

COMPARATIVE TEST REPORT

Gamebreaker Pro Impact Performance compared to Competitors

D3O THE LAB 24/01/2017

T504_r2

COMPARATIVE TEST REPORT

Gamebreaker Pro

INTRODUCTION

D3O® materials feature a unique patented technology that offers enhanced shock absorption and impact protection.

Delivering premium performance properties, D3O® materials consistently outperforms traditional materials.

The aim of this report is to highlight the improved level of shock absorption offered through D3O® integration.

TEST METHODOLOGY

Gamebreaker Pro headgear and competitor products were conditioned for 24hrs at 23°C 50% RH before being impacted. The testing was carried out according to the NOCSAE Football Helmets Standard – NOCSAE DOC (ND)002-13m15, with the impact speed based on the shock impact attenuation tests specified in ASTM F2439-06(2016).

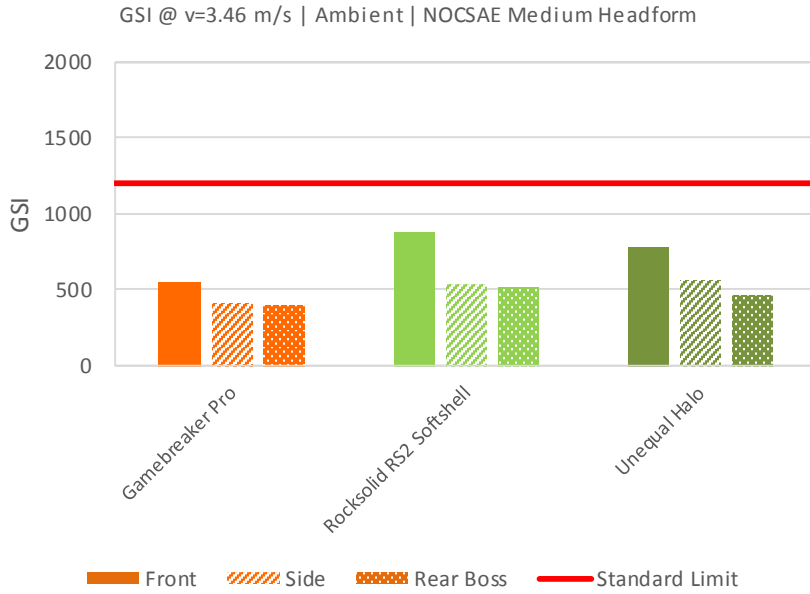
- The NOCSAE medium headform and NOCSAE 1/2" MEP Pad were used.
- The samples were impacted in three impact locations: Front, Side and Rear Boss (locations according to the standard).
- For each impact location the samples were tested once at each of the two first impact speeds (according to the standard), namely 3.46m/s and 4.23m/s.
- The peak acceleration was recorded by a tri-axial accelerometer mounted inside the headform and the Gadd Severity Index (GSI) value was then calculated by the software.
- The standard specifies that the peak Severity Index (SI) of any impact shall not exceed 1200.



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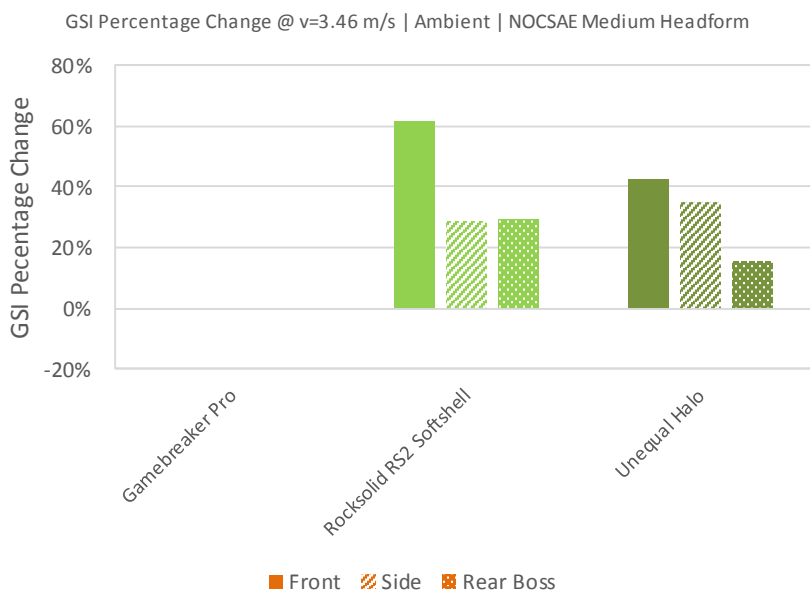
RESULTS: Performance at 3.46 m/s



KEY FINDINGS:

- Gamebreaker Pro headgear integrating D3O® technology outperforms all the competitors.

RESULTS: Percentage Change at 3.46 m/s



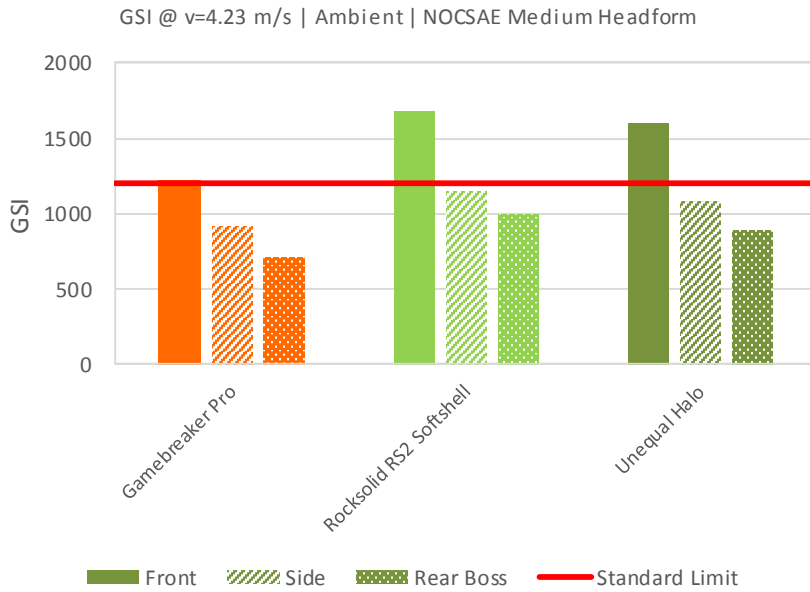
KEY FINDINGS:

- For the test at 3.46 m/s, Gamebreaker Pro headgear outperforms the competitors up to 61%.

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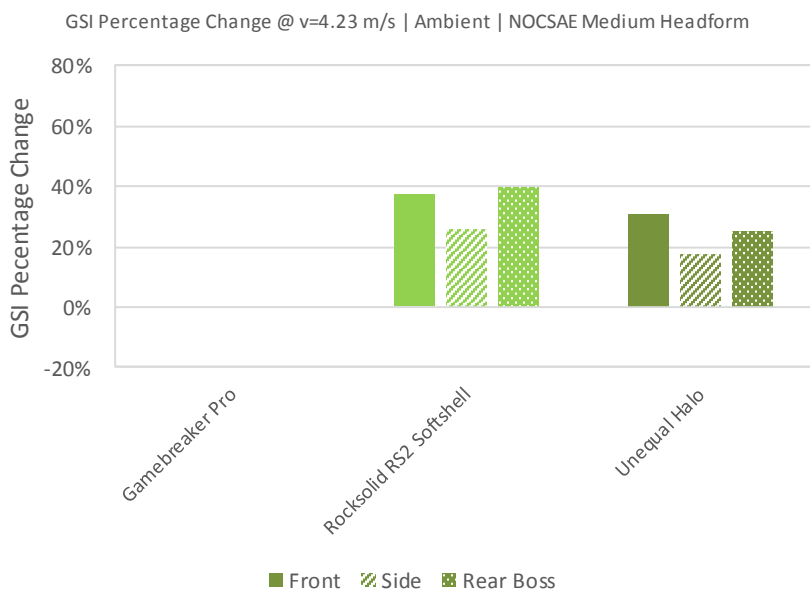
RESULTS: Performance at 4.23 m/s



KEY FINDINGS:

- Gamebreaker Pro headgear integrating D3O[®] technology outperforms all the competitors.

RESULTS: Percentage Change at 4.23 m/s



KEY FINDINGS:

- For the test at 4.23 m/s, Gamebreaker Pro headgear outperforms the competitors up to 40%.

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CONCLUSION

The results presented in this report are based in limited tested according the NOCSAE Football Helmets Standard with reference (ND)002-13m15. The soft protective headgear were tested in three out of the six impact locations specified in the standard (Front, Side and Rear Boss) and at the first two impact speeds (3.46 and 4.23 m/s). The impact locations were defined by the restrictions imposed by the competitor products, namely the Unequal headbands which could not be tested in the crown and rear locations. The higher impact speeds specified in the standard (4.88 and 5.46 m/s) were considered excessively aggressive for this type of protective headgear and dangerous for the testing equipment.

Gamebreaker Pro headgear integrating D3O[®] technology outperforms the leading competitors.