

**IMPACT RECOVERY PROTECTIVE GUARDING  
INDEPENDENT TEST SUMMARY REPORT**

DATE: 1-Oct-24

PRODUCT: TYPE 2.5 BOLLARD

SIZE: 100CM TALL

ANCHORS: (6) M16 X 140

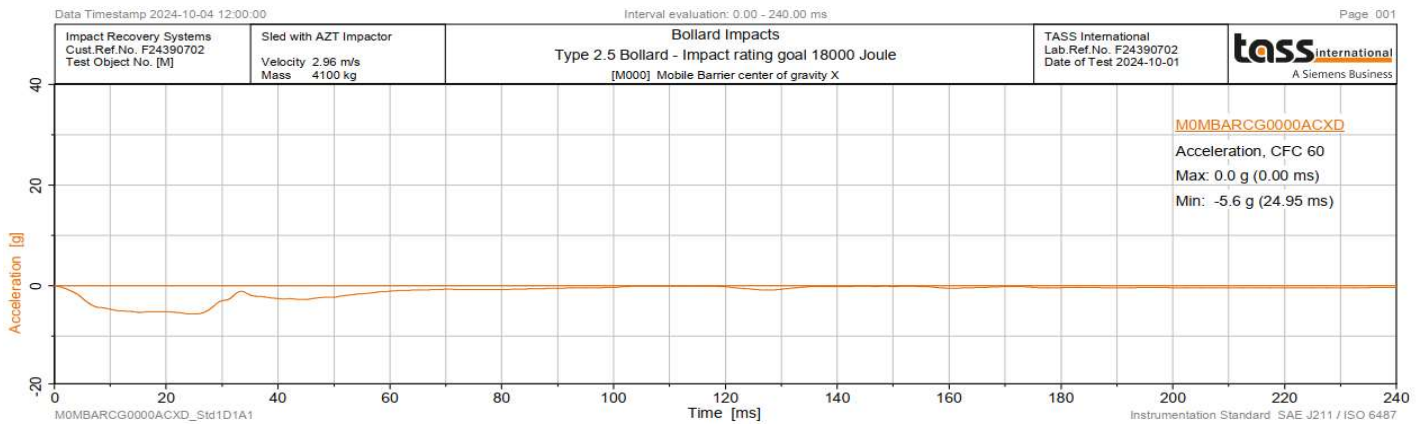


TEST TYPE: SURROGATE POWERED INDUSTRIAL TRUCK

SUBSTRATE: C30/37 CONCRETE

|                             |               |        |                   |
|-----------------------------|---------------|--------|-------------------|
| IMPACT MASS:                | <u>4100</u>   | kg     |                   |
| IMPACT SPEED:               | <u>2.96</u>   | m/s    | Laser Timing Gate |
| IMPACT HEIGHT:              | <u>145</u>    | mm     |                   |
|                             |               |        |                   |
| ENERGY:                     | <u>17,961</u> | joules |                   |
| PEAK DECELERATION (X AXIS): | <u>5.6</u>    | g      |                   |
| PEAK FORCE (X AXIS):        | <u>225.0</u>  | kN     |                   |
|                             |               |        |                   |
| MAXIMUM DELFECTION:         | <u>51.7</u>   | cm     |                   |
| PERMANENT DEFLECTION:       | <u>3.2</u>    | cm     |                   |

RESULT: Vehicle arrested.



ATTESTATION: Ivo Bontenbal  
Test Program Engineer  
TASS International

WITNESSES: Kenneth Parrott  
Product Manager  
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## Test report

Report no. 24.TR.121/IJB  
Report Date 7 October 2024

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## Frontal impact test on an Impact Recovery Type 2.5 Bollard at a rating goal of 18000 Joules (10.67 km/h)

Test object **Impact Recovery Type 2.5 Bollard**  
Laboratory test no. **F24390702**

Test date 1 October 2024  
Customer Mr. K. Parrott  
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