

Trailer Bumper Test Results

PRODUCTS TESTED

Trailer Bumpers (Length: 5 7/8"; Width: 3"; Height: 3 1/8")

- OEM Rubber Trailer Bumper
- ATRO Polyurethane Trailer Bumper

SETUP AND PROCEDURE

1. Each bumper was bolted to a base plate which had a 5° angle machined on it. This was done to approximately simulate the angle at which a trailer bumper would contact a dock.
2. The bumpers were impacted by a hardened steel plate which had a rough texture machined in it to accelerate wear.
3. Each impact reached a maximum load of 5,000lbs, which was determined based on the load deflection test results.
4. Testing continued until failure or 250,000 cycles was reached.

RESULTS

The OEM rubber bumper failed at 16,520 cycles due to the test fixture plate hitting the head of the upper mounting bolt.

The ATRO polyurethane bumper lasted the full 250,000 cycles without failing.

After testing was complete, there was very little visual damage to the ATRO part.



- Test Set Up -



CONCLUSION

During the cycle testing, the ATRO polyurethane bumper far outperformed the rubber bumper by a sizable margin. Therefore, ATRO bumpers offer superior performance to the OEM rubber bumper. This conclusion is based on the results of this cycle test, the success ATRO has seen in the field and the reduction in cost.



OEM Rubber Bumper at 16,520 cycles



ATRO Polyurethane Bumper at 250,000 cycles



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