COMPRESSION TEST REPORT

POTHOLE RELIEF DEVICE

PaveVent
Pothole Relief Device

TEST DATE:
20 April 2026

TEST CONDUCTED BY:
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SAMPLE REFERENCE:
PRD-CT-001

TEST EQUIPMENT:
Compression Testing Machine (100kN capacity)

1 OBJECTIVE

To evaluate the compressive strength, deformation behaviour, and failure characteristics of the Pothole Relief Device manufactured from three material variants:

- NYL-30
- NYL-10
- TPE 80A

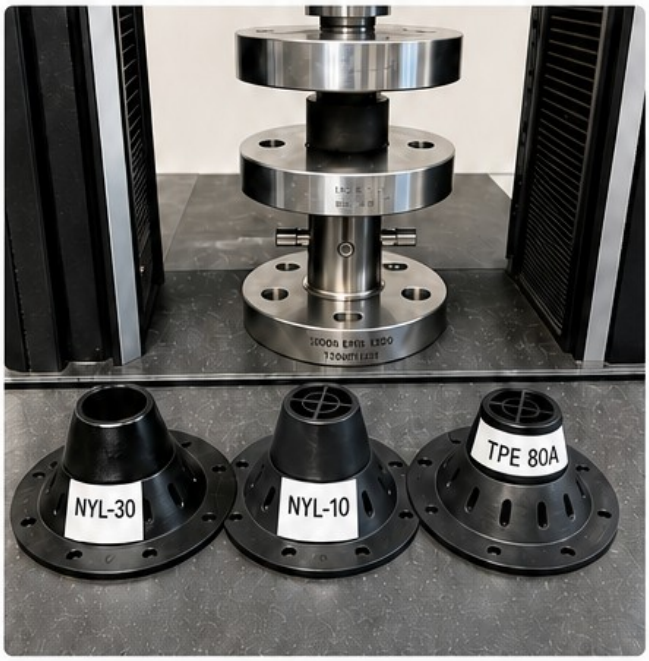
The test aimed to determine load-bearing capacity and structural performance under vertical compression simulating vehicular loading conditions.

2 TEST METHOD

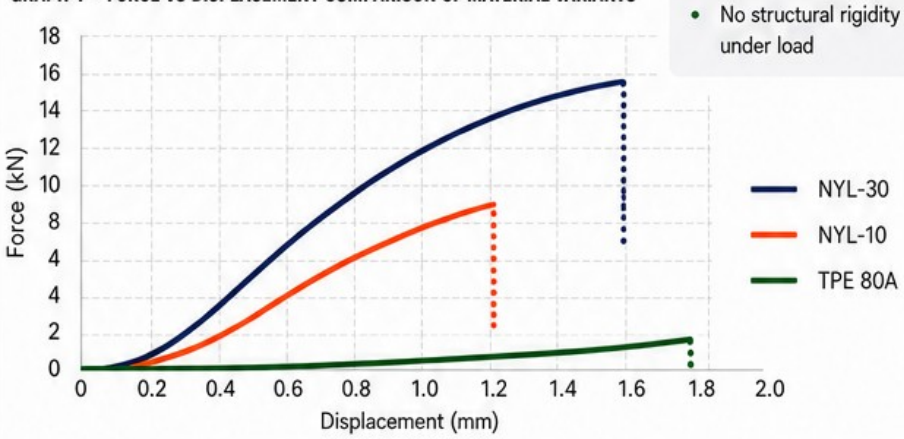
- Devices placed centrally under compression platen
- Load applied vertically at controlled rate
- Force (kN) vs displacement (mm) recorded
- Test continued until:
  - Material failure OR
  - Significant deformation observed
- Comparative analysis conducted across materials

3 EVIDENCE / RESULTS

IMAGE 1 – COMPRESSION TEST SETUP AND MATERIAL SAMPLES



GRAPH 1 – FORCE VS DISPLACEMENT COMPARISON OF MATERIAL VARIANTS



KEY RESULTS

NYL-30

- Highest load capacity (~15–16 kN)
- Progressive deformation before failure
- Maintained structural integrity longest

NYL-10

- Moderate load capacity (~8–9 kN)
- Earlier deformation and failure
- Reduced stiffness vs 30% variant

TPE 80A

- Very low load resistance
- High flexibility / compression with minimal force
- No structural rigidity under load

4 KEY OBSERVATIONS

Load Resistance
NYL-30 demonstrated superior load-bearing performance.

Material Behaviour
Increased glass content significantly improves stiffness and strength.

Flexibility
TPE behaves elastically but lacks structural support for load-bearing applications.

5 CONCLUSION

The compression test demonstrates that material selection has a significant impact on the structural performance of the Pothole Relief Device under load.

High Strength
NYL-30 offers the highest load capacity and structural integrity.

Balanced Option
NYL-10 provides moderate strength with improved stiffness.

Flexible Material
TPE 80A is highly flexible but lacks structural rigidity under compression.

6 RECOMMENDATIONS / NEXT STEPS

- Conduct repeated load / fatigue testing
- Test installed units within asphalt substrate
- Evaluate long-term creep behaviour
- Validate performance under dynamic (vehicle) loading

Note: This test was conducted under controlled laboratory conditions. Further real-world testing is recommended to validate long-term performance.