

Comparative Crush, Sharp Object and Hand Tool Impact Test Results

Description

Three different tests (Crush, Sharp Object and Hand Tool Impact) are conducted on four different product samples: VDC1, FTT, MCS Road Cable and 3 Tube Bundle. This test plan provides lab results to help provide life cycle data for shallow outside plant environments.

Test Description and Results

Crush Test (Pressure from a 2.54cm (1") wide object applied across the sample set):

Product	Force required to collapse
VDC1	2513 lbs/linear in (449 kg/linear cm)
FTT	173 lbs/linear in (31 kg/linear cm)
MCS Road Cable	456 lbs/linear in (81 kg/linear cm)
3 Tube Bundle	369 lbs/linear in (66 kg/linear cm)

Sharp Object Test (Pressure from sharp object applied across the sample set)

Product	Weight required to collapse (applied to blade)
VDC1	471 lbs (214 kg)
FTT	94 lbs (43 kg)
MCS Road Cable	165 lbs (75 kg)
3 Tube Bundle	118 lbs (53 kg)

Hand Tool Impact Test (Impact of a 80kg person standing on a shovel blade on the sample set)

Product	Pass/Fail
VDC1	Pass
FTT	Fail
MCS Road Cable	Fail
3 Tube Bundle	Fail

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Crush Test



Sharp Object Test



Hand Tool Impact Test



Hand Tool Impact Test



Summary

Any micro-trenched product must survive contact with hand tools and handle heavy crushing loads caused by infrastructure failure or shifting loads. Failure to use a durable product will result in network failure and high maintenance costs to restore service and perform infrastructure repairs. While the micro-trench product cost is a small percentage of the overall installation cost, the importance of installing a rugged product will significantly reduce downstream maintenance costs.