

Umbilical Squeeze / Crush Test

Umbilical Qualification test

This test is one of a number of Qualification tests defined within ISO 13628-5 2009 specification Annex G, Table G-1.

These loads can be applied during the installation and handling of the completed umbilical assembly and this test simulates the installation tensioner configuration. The intention of the test is to validate the predicted / stated maximum allowable radial compressive (crush) load of the umbilical as defined by Finite Element Analysis (FEA).



FEATURES

Crush loads applied by rigs with up to 150 tons capacity

Maximum crush length - 1.2 m / 1.0 m

Can be used with customer-supplied pads or custom-produced pads

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The test is used to confirm the allowable crush resistance proposed by umbilical manufacturer and record any interaction between elements under increasing crush load including local crushing of weaker elements, internal rearrangements, filler deformations, contact pressure points.

It also provides the purchaser with some guidance on the umbilical integrity after potential crush incidents during reeling, transportation and installation.

Test ensures that the specific pads used in the proposed umbilical tensioner

combination meets project criteria. If non specific pads are used we can advise the installation contractor on umbilical crush

resistance for the design of installation tensioner pads and geometry.

Ability to measure the bundle deformation at the design specified clamping force with known track configuration and pad geometry.

Measurement of element deformations following application of design clamping force is available.

Technical Data

ISO 13628-5 specification Annex G, Table G-1

	Rosyth, Scotland	Niterói, Brazil
Crush load	1,000 Kn/m per track (2, 3, or 4 track)	1.5 MN/m per pad (2, 3, or 4 track)
Maximum crush length	1.2 m	1.0 m
Control system	Computerized system for machine control and datalogging of sample instrumentation	
Sensors	Integrated displacement and tensile load monitoring. Datalogging facilities available for monitoring of additional sensors such as torsional rotation, sample diameter and ovality, thermocouples, and strain gauges, if required.	
Results	Electronic test report	