



KM3NeT Template Qualification Test Procedures

KM3NeT_QUAL_2019_002_v0

[Work_Package_Responsible_Name](#), [System_Coordinator_Name](#),
[Related_LQS_Name](#),...

+ S. Henry, G. Androulakis

CPPM

Abstract

This document describes the qualification tests procedure to be applied to the [Item_name](#) for the KM3NeT project.

Recipients

The KM3NeT PSC

Document Status

Revision	Date	Comment	Reviewed by	Approved by
			XX	YY

Revision History

Revision	Date	Description
Draft	28/03/2019	First draft
V0	25/04/2019	Modifications from Miles and Giorgos



1 Table of Contents

2 Documentation 2

2.1 Abbreviations.....2

2.2 Reference Documents.....2

3 Introduction 3

4 Quality and organisational issues 3

4.1.1 *Status of NCR-DCR-Waiver of the item under test..... 3*

4.1.2 *List of people committed..... 3*

5 Definition of the qualification tests 3

5.1 “Name of the qualification test 1” (Hyperbaric, vibration, etc.).....3

5.1.1 *Objectives and expected results..... 3*

5.1.2 *Material configuration..... 3*

5.1.3 *Test and monitoring of the material..... 4*

5.1.4 *Pass/fail criteria..... 4*

5.1.5 *Test procedure..... 4*

5.1.6 *Tests organization..... 4*

5.2 “Name of the qualification test 2” (Hyperbaric, vibration, etc.).....4

2 Documentation

2.1 Abbreviations

Abbreviation	Description
DU	Detection Unit
DOM	Digital Optical Module
...

2.2 Reference Documents

Abbreviation	Title	Reference
--------------	-------	-----------



RD1	KM3NeT TDR	KM3NeT_DS_TDR
RD2	KM3NeT CRD	KM3NeT_DS_CDR
RD3	KM3NeT Qualification Plan	KM3NeT_QUAL_2018_001
RD4	KM3NeT Qualification Procedures	KM3NeT_QUAL_2018_002
RD5	...	

3 Introduction

This document describes “[type of test](#)” qualification tests foreseen on the “[Item_name](#)”. It will be the support for the Test Readiness Review (TRR) that should be held before to start the qualification processes.

This document should include the following topics:

- Test procedures
- Tests configuration
- Tests set-ups
- Tests pass/fail criteria completeness
- Status of NCR, DCR, waivers for the item under tests
- When relevant: cleanliness condition, hazard and safety

4 Quality and organisational issues

4.1.1 Status of NCR-DCR-Waiver of the item under test

4.1.2 List of people committed

5 Definition of the qualification tests

5.1 “Name of the qualification test 1” (Hyperbaric, vibration, etc..)

5.1.1 Objectives and expected results

Explain here why do we do these tests (mention the final operational constraints: high water pressure, vibration during transportation, etc...), and what do we expect (ex: we want to verify that the unit under test stays functional, or that a mechanical enclosure dose not leak, etc...)

5.1.2 Material configuration

5.1.2.1 Unit under test (UUT)

Describe here the element under test including UPI, photos, CAD when relevant, etc...



5.1.2.2 Test equipment

Describe here the test equipment (Hyperbaric chamber, vibration pot, etc) with the main characteristics (max. pressure range, precision, resolution, recorded parameters and sampling frequency of the test device, etc...), locality, etc..

5.1.2.3 Mechanical support equipment

Describe here the mechanical interface developed to test the UUT with the test equipment (interface with the vibration pot, etc...)

5.1.3 Test and monitoring of the material

Explain here how the UUT will be tested/inspected prior, during (when possible), and after the qualification tests.

Also describe the test bench used for that when relevant (electrical support equipment's, Control/command sampling frequency, etc...

5.1.4 Pass/fail criteria

Explain here what parameter(s) of the UUT will be used to assess the good functionality of the UUT. For each parameter, give a nominal value with upper and lower acceptance limit (example: 30mA +2mA/-3mA).

In some cases, the Pass/fail criteria is linked to a visual inspection. In that case, clearly explain what aspects needs to be checked, and how to take a decision on whether the UUT passed or failed the test.

5.1.5 Test procedure

Explain here the sequence of the tests, the pressure (or temperature) qualification profile, the vibration constraints and characteristics, the ramps, etc....

5.1.6 Tests organization

Explain here who will follow these tests (including a relevant LQS), where will the tests take place, what is the planning of these tests (T0, planning of day1, day2, etc...).

5.2 "Name of the qualification test 2" (Hyperbaric, vibration, etc..)

Same frame as for 5.1...

Etc...