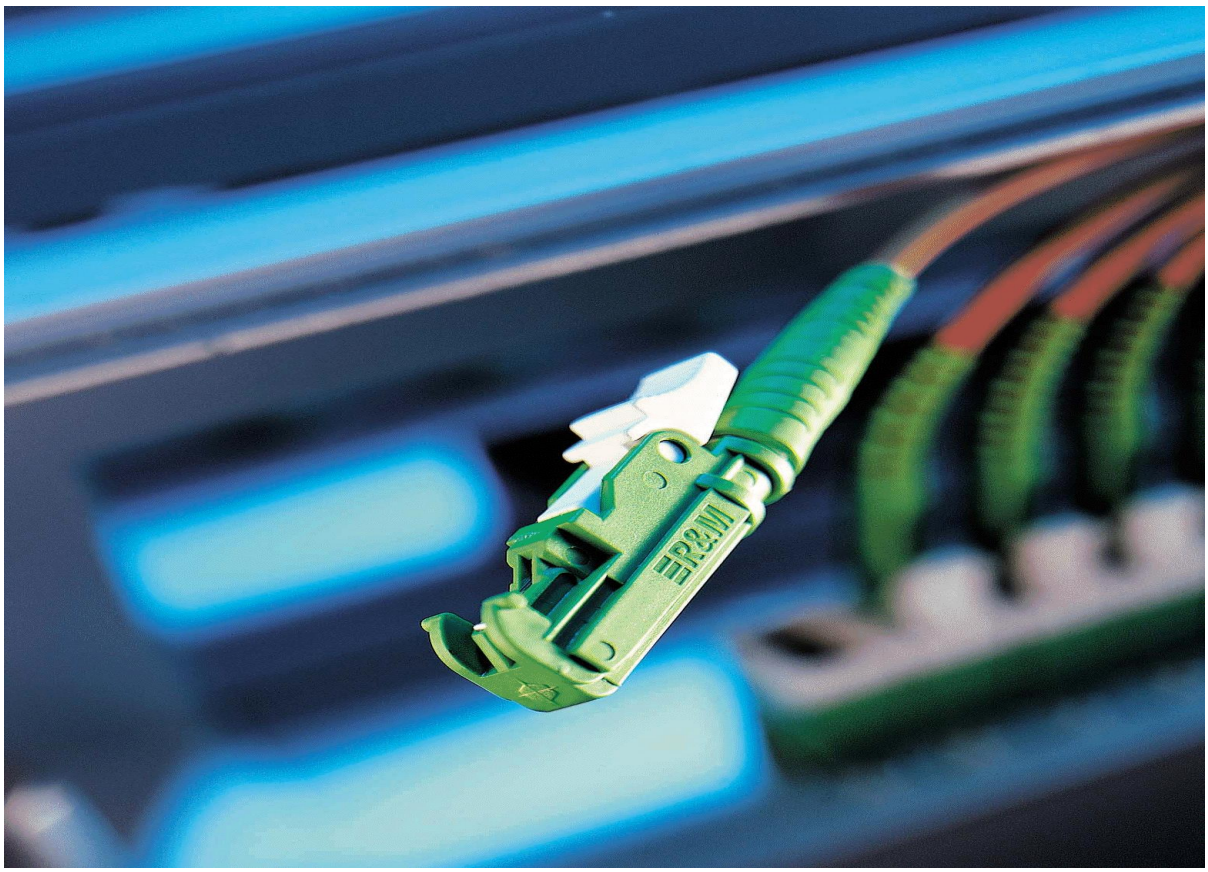
Test Report

SQS Vlaknova optika a.s.



E-2000™ connector

Certificate

R&M herewith certifies that the company named below has an appropriate quality standard for its E-2000™ Assemblies which meets the requirements of R&M

and issues the company

SQS Vlaknova optika a.s.

Czech

on the basis of the audit result

This certificate is valid up to **December 2022**
Registration number **SUB147888-2212**

Wetzikon, November 2020
Reichle & De-Massari AG

Ramiz Alijaj
Head of Quality Assurance

Hermann Christen
Market Manager Market Development

R&M

Test Report E-2000 Assemblers

November / 25th / 2020

Purpose

In order to ensure a consistently high quality of R&M E-2000 APC patch cords and/or pigtails, all assemblers of R&M E-2000 connectors are subjected to a quality control test every year.

As a rule the quality test is carried out with the consent of the assemblers to be tested. It can, however, also be performed without it.

Normally a minimum of 5 patch cords with E-2000 APC connectors on both sides are used for the testing.

A certificate is issued certifying the quality of the R&M E-2000 APC connectors as specified by R&M. The assembler is authorized to assemble R&M E-2000 APC connectors for the duration on one year.

The certificate can also be issued with certain restrictions, documented and filed at R&M.

Tested Assembler:

SQS Vlaknova optika a.s.

Komenskeho 304
509 01
Nova Paka
Czech

Tested Patch-Cords:

5 Patch-Cords	**E-2000 APC / E-2000 APC 8°, SM, 3mm, 3m**

Summary

Requirements fulfilled: **Yes / pass** *

The 5 Patch-Cords E-2000 APC SM, 3mm, 3 m, were tested in accordance with the R&M Assembly Specifications.

All results of the tests carried out are within the specification.

Test Results

1. Visual Examination, IEC 61300-3-1 Method 2

Requirements fulfilled: **Yes / pass**

Requirements:
The samples had to be assembled carefully and in a correct way without any damages and missing elements. Additionally the crimping has to be correct and well shaped without sharp edges.

Results:
Housing: **pass**

Crimping sleeve: **pass**

Assembling fibre into ferrule: **pass**

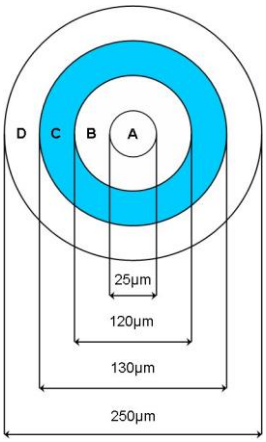
Assessment:
The requirements were fulfilled

2. Visual check of surface IEC 61300-3-35 Table 3

Requirements fulfilled: **Yes / pass**

Requirements:

	Zone A	Zone B	Zone C
Scratches	None	No limit ≤ 3µm none > 3µm	No limit
Defects	None	No limit < 2µm 5 from 2µm-5µm None > 5µm	No limit
clue cap	n.a.	n.a.	< 1/3 perimeter

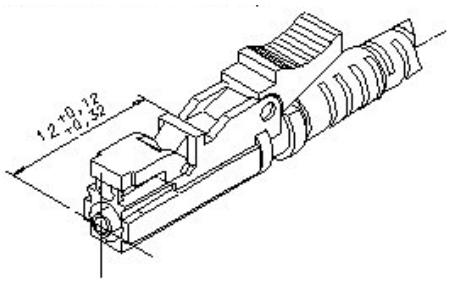


Zone A-D	shall be clean. Espacially free of dust, dirt or other remaining which can harm the connector surface. No defects ≥ 10 µm

Assessment:
The requirements were fulfilled

3. Checking dimension of E-2000 IEC61754-15

Requirement fulfilled **Yes / pass**



Dimension 12 mm +0.12/+0.32mm

Assessment:
Requirement is fulfilled

4. Interferometer measurement IEC 61300-3-47

Requirements fulfilled: **Yes / pass**

Requirements:

Radius of curvature (APC)	5 mm – 12 mm
Spherical height:	min -100 nm – IEC calculated
Apex offset:	0 – 50 µm (70 µm with housing)
Actual angle	≥ 7.7° - ≤ 8.3°

Assessment:
The requirements were fulfilled

5. Attenuation measured against reference

Attenuation measurements at 1310 nm and 1550 nm

IL measurements **IEC 61300-3-4**

Requirements fulfilled: **Yes / pass**

Requirement: < 0,50 dB

6. Return loss measured against reference

RL measurements **IEC 61300-3-6**

Requirements fulfilled: **Yes / pass**

Requirement: > 60 dB

Assessment:
The requirements were fulfilled

7. Cable retention

IEC 61300-2-4

Requirements fulfilled: **Yes / pass**

Tensile strength: 100 N for cables > 2 mm and 70 N for cables ≤ 2 mm
Duration: 120 s

Assessment:
Requirement is fulfilled

Wetzikon, November / 25th / 2020

For the correctness of the report:

C.Compare
R&D FO LAB

on behalf of

Joel Helfenstein
Quality Assurance Fiber Optic