

Test report no.: **403.843**Date: **2010-11-24****Flex arcs in the nominal widths NW 100,
120, 140 and NW 160**

Customer: Franz Elkuch AG
Burstried 9
9465 Salez
SCHWEIZ

Subject: Flex arcs made of polyethylene (PE) with the nominal widths NW 100, 120, 140 and NW 160

Test: Test of pressure strength (section 10.2, EN 50086-1), impact test (section 10.3, EN 50086-1) and tensile strength test (section 10.7, EN 50086-1)

Order: Written by Mr. Elkuch on 2010-09-22

Date of sampling: No sample collection by **ofi** employees
Samples were sent by the customer

Receipt of samples: 2010-10-05

Diagram: DI Papp / Vyc

1 APPLICATION AREA

The following tests were performed on the flex arcs made of polyethylene (PE) of the nominal widths 100, 120, 140 and NW 160:

- Testing the pressure strength (section 10.2, EN 50086-1);
- Impact test (section 10.3, EN 50086-1);
- Tensile strength test (section 10.7, EN 50086-1);

2 SCOPE

The results included in this test report were maintained under special conditions of the respective test. They serve as proof of compliance of the samples tested with the requirements of the product standard listed for the customer.

3 SAMPLE MATERIAL

Through the efforts of Franz Elkuch AG, **ofi** Technologie & Innovation GmbH (hereinafter referred to in short as **ofi**) transferred the following samples listed in Table 1 on 2010-10-05.

Table 1: Testing material description

Testing material	Testing material description
1	NW 100 Flex arc Elkuch AG pat. no. 0676840 >PE<
2	NW 120 Flex arc Elkuch AG pat. no. 0676840 >PE<
3	NW 140 Flex arc Elkuch AG pat. no. 0676840 >PE< 27.03
4	NW 160 Flex arc Elkuch AG pat. no. 0676840 >PE<

4 TESTS

The tests which are the subject of the study were performed in the period from CW 40/2010 to CW 47/2010 in the relevant field-specific departments within the scope of competence of the signatories according to the **ofi** QM manual.

4.1 PRESSURE STRENGTH TEST

Pressure strength was tested according to section 10.2 of EN 50086-1. Here the force with a 5% deformation in relation to the external diameter is recorded. The results (average values and standard deviations of three measurements) as well as the classification are summarised according to section 10.2.5 of EN 50086-1 in Table 2.

Table 2: Results of pressure strength

Testing material	Pressure force in N	Classification
1	753.1 ± 1.0	3 (average)
2	753.2 ± 0.1	3 (average)
3	1 254.3 ± 1.5	4 (heavy)
4	752.6 ± 0.3	3 (average)

4.2 IMPACT TEST

The impact test was performed according to section 10.3 of EN 50086-1 on 12 samples per nominal width at a temperature of -25 °C (minimum temperature range according to Table 1 of EN 50086-1).

The results and the classification according to section 10.3.2 of EN 50086-1 are summarised in Table 3.

Table 3: Results of impact test

Testing material	Hammer weight in kg	Falling height in mm	Classification
1	2	300	4 (heavy)
2	2	300	4 (heavy)
3	2	300	4 (heavy)
4	2	300	4 (heavy)

4.3 TENSILE STRENGTH TEST

The tensile strength was tested according to section 10.7 of EN 50086-1. After application of the tensile force 1 000 N, after a load period of two minutes, there was no removal of the pipe from the end accessory parts. The results of the three individual measurements as well as the classification according to section 10.7.4 of EN 50086-1 are summarised in Table 4.

Table 4: Results of tensile strength

Testing material	Tensile force in N	Classification
1	1 000	4 (heavy)
2	1 000	4 (heavy)
3	1 000	4 (heavy)
4	1 000	4 (heavy)

This test report no. **403.843**

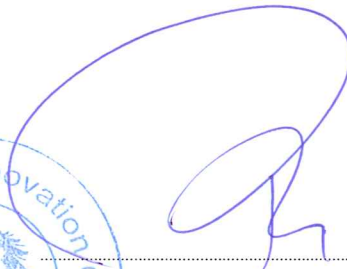
includes 5 pages with 4 table(s), 0 Figure(s), 0 Enclosure(s).

Specialist

Test Manager in Charge
Pipe and pipe line parts



Patrick Vycudilik



DI Udo Pappler

The test results refer only to the tested sample material.

Test results may be made available to third parties either for or without compensation with a specific mention of *ofi*.

All tests are a quality assurance program according to EN ISO/IEC 17025:2005.

The General terms of business (Allgemeine Geschäftsbedingungen of *ofi* Technologie & Innovation GmbH in the current version, which is available on the Internet for download (<http://www.ofi.at>).