

SMARTFLEX series and P2 CNC for TRGS 727 and the "ATEX Directive" 2014/34 / EU

SCHAUBURG Ruhrkunststoff GmbH, Weseler Straße 35, 45478 Mülheim, has had spiral hoses of the type SMARTFLEX and FLEXADUX P2 CNC examined with regard to their electrical properties when used in potentially explosive areas.

In the following table 1 the test results of the investigated spiral hoses are shown. In order to be able to assess a series with different diameters, a hose type with a small and as large a diameter as possible was always examined.

Table 1: Test results of the spiral hoses with metal core

Attempt No.	Hose type	Diameter (mm)	Rges (Ωm)
1	Smartflex 0,4	50	2,2 x 10 ⁸
2	Smartflex 0,4	160	1,4 x 10 ⁸
3	Smartflex 0,6	50	1,8 x 10 ⁸
4	Smartflex 0,6	160	2,2 x 10 ⁸
5	Smartflex 0,7	50	1,0 x 10 ⁸
6	Smartflex 0,7	160	1,6 x 10 ⁸
7	Smartflex 1,0	50	3,9 x 10 ⁷
8	Smartflex 1,0	160	9,9 x 10 ⁷
9	Smartflex 1,4	50	4,3 x 10 ⁷
10	Smartflex 1,4	160	6,8 x 10 ⁷
11	P2 CNC	50	4,3 x 10 ¹⁰
12	P2 CNC	160	2,5 x 10 ¹⁰

(10.11.2016, Dekra Zeichen: 16EXAM 11027 BVS-BI)

The results for the use of the two series are clearly shown in Table 2 below. In general, the new version of TRGS 727 stipulates that only hose diameters between 50 and 160 mm are permitted for pneumatic transport. In addition, the following statement can be made regarding the scope of Directive 2014/34 / EU (ATEX Directive) on the spiral hoses: Spiral hoses are not "devices" or "components" in the sense of Directive 2014/34 / EU. However, it can be said that, based on national and European regulations, the respective spiral hose types when earthed meet the electrostatic requirements for the purpose specified in Table 2.

This property can be used in the risk assessment for devices that are subject to Directive 2014/34 / EU (ATEX Directive) and in which the spiral hoses are to be used.

Table 2: Clear illustration of the use of different types of spiral hoses

Hose type	Pneumatic transport of combustible dusts (zone 20, 21, 22 inside)	Aspiration (no zone or zone 22 inside)	Conveying flammable liquids (inside: Zone 0, 1 and 2)	Conveying non-flammable liquids	Use in zone 1 and 2	Use in zone 0
Smartflex 0,4	✓	✓	✓	✓	✓	✓
Smartflex 0,6	✓	✓	✓	✓	✓	✓
Smartflex 0,7	✓	✓	✓	✓	✓	✓
Smartflex 1,0	✓	✓	✓	✓	✓	✓
Smartflex 1,4	✓	✓	✓	✓	✓	✓
P2 CNC	✗	✓	✗	✗	✗	✗

(Stand: 10.11.2016, Dekra Zeichen: 16EXAM 11027 BVS-BI)

All hoses in the Smartflex series are conductive and suitable for the transport of flammable bulk materials as well as for the transport of flammable liquids. These hoses can be used without restriction in potentially explosive areas of zone 0.1 and 2 in the presence of flammable gases and vapors of explosion group IIA and IIB.

As specified in the requirements, this applies to all hoses in the series with an internal diameter between 50 mm and 160 mm. The hoses of the P2 CNC series exceed the limit value of $2.5 \times 10^8 \Omega$ and are therefore not suitable for the pneumatic transport of flammable dusts or flammable liquids.

Mülheim an der Ruhr, den 08.04.2021

Place, Date, Signature