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Evaluation Report of

**ETA 17/0751
of 18/09/2017**

Technical Assessment Body issuing the ETA: **Technical and Test Institute for Construction Prague**

**Trade names of the construction
products**

**EUREKO® CPS;
EUREKO® DDS II;
EUREKO® DDU II;
EUREKO® DDN II**

**Product family to which the construction
product belongs**

**Flat and profiled (with a pattern) plastic roofing
sheets made of recycled material for fully supported
discontinuous roofing**

Manufacturer

REGRA PLAST spol. s r.o.
č.p. 197, 440 01 Obora
Czech Republic

Manufacturing plant(s)

REGRA PLAST spol. s r.o.
č.p. 197, 440 01 Obora
Czech Republic

This Evaluation Report contains:

7 pages and 0 annexes

1 Introduction

This Evaluation Report contains the test results used for assessing of the flat and profiled (with a pattern) plastic roofing sheets made of recycled material for fully supported discontinuous roofing “**EUREKO® CPS; EUREKO® DDS II; EUREKO® DDU II; EUREKO® DDN II**” in accordance with the essential requirements as specified in European Assessment Document (EAD) No. 220069-00-0402 for flat and profiled (with a pattern) plastic roofing sheets made of recycled material for fully supported discontinuous roofing.

2 Available documents

1. EAD No. 220069-00-0402 for flat and profiled (with a pattern) plastic roofing sheets made of recycled material for fully supported discontinuous roofing
2. ETA application form
3. Technical data sheets and safety data sheets of the products
4. Installation manual

3 Definition of product and intended use

3.1 Definition of product

The European Technical Assessment applies to the flat and profiled (with a pattern) plastic roofing sheets made of recycled material for fully supported discontinuous roofing “**EUREKO® CPS; EUREKO® DDS II; EUREKO® DDU II; EUREKO® DDN II**”.

Product is specified for the minimal roof slope at least 25° up to 80°. The plastic roofing sheets (PRSs) shall be always underlaid by a waterproofing membrane. Type of the waterproofing membrane shall correspond to the composition of the roof deck. Installation shall be performed according to the manufacturer’s instructions.

The PRSs are made of recycled plastics.

As for the material composition they are based on copolymer PE/PP, talc and pigments.

The PRSs can be produced in more shapes and can be flat or profiled (with a pattern). The PRSs can imitate appearance of the natural materials because of the pattern.

Table No. 1: Declared dimensions, weight and tolerances

Type of PRS	Length [mm]	Width [mm]	Thickness(depth) [mm]	Weight [g]
EUREKO® CPS	(317.6±4)	(422.4±5)	(4.0 ±1)	(300±30)
EUREKO® DDS II	(517.5±6)	(155.2±5)	(26.3±3)/(2±0.2)*	(333±40)
EUREKO® DDU II	(613.1±6)	(106.5±5)	(26.3±3)/(2±0.2)*	(250±20)
EUREKO® DDN II	(614.2±6)	(108.1±5)	(23.5±3)/(2±0.2)*	(210±20)

Note: *The PRS is profiled and has got substantially higher thickness(depth) in the location of profile than out of location of the profile where is only unregular pattern of the sheet. For more details see the drawings below.

Figure No. 1: EUREKO® CPS

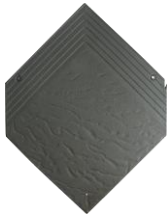


Figure No. 2: EUREKO® DDS II



Figure No. 3: EUREKO® DDU II



Figure No. 4: EUREKO® DDN II



Figure No. 5: Drawing of EUREKO® CPS

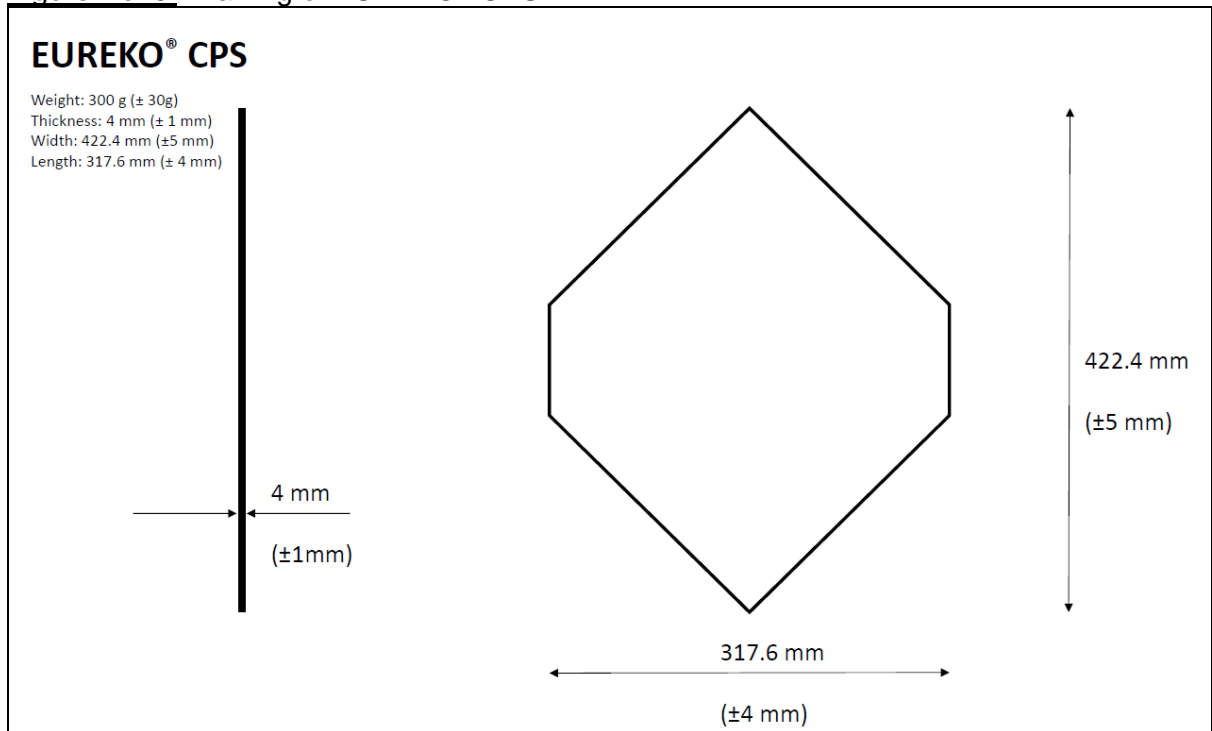


Figure No. 6: Drawing of EUREKO® DDS II

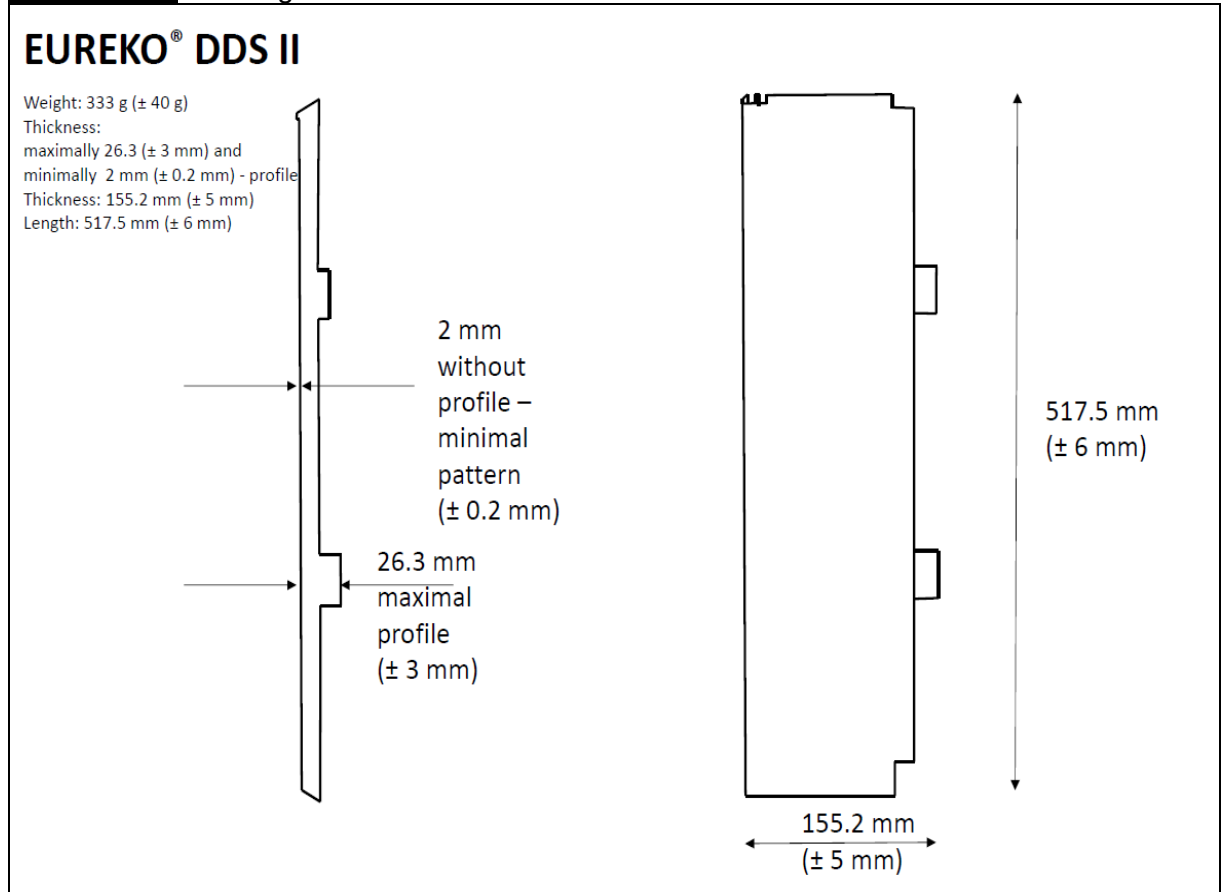


Figure No. 7: Drawing of EUREKO® DDU II

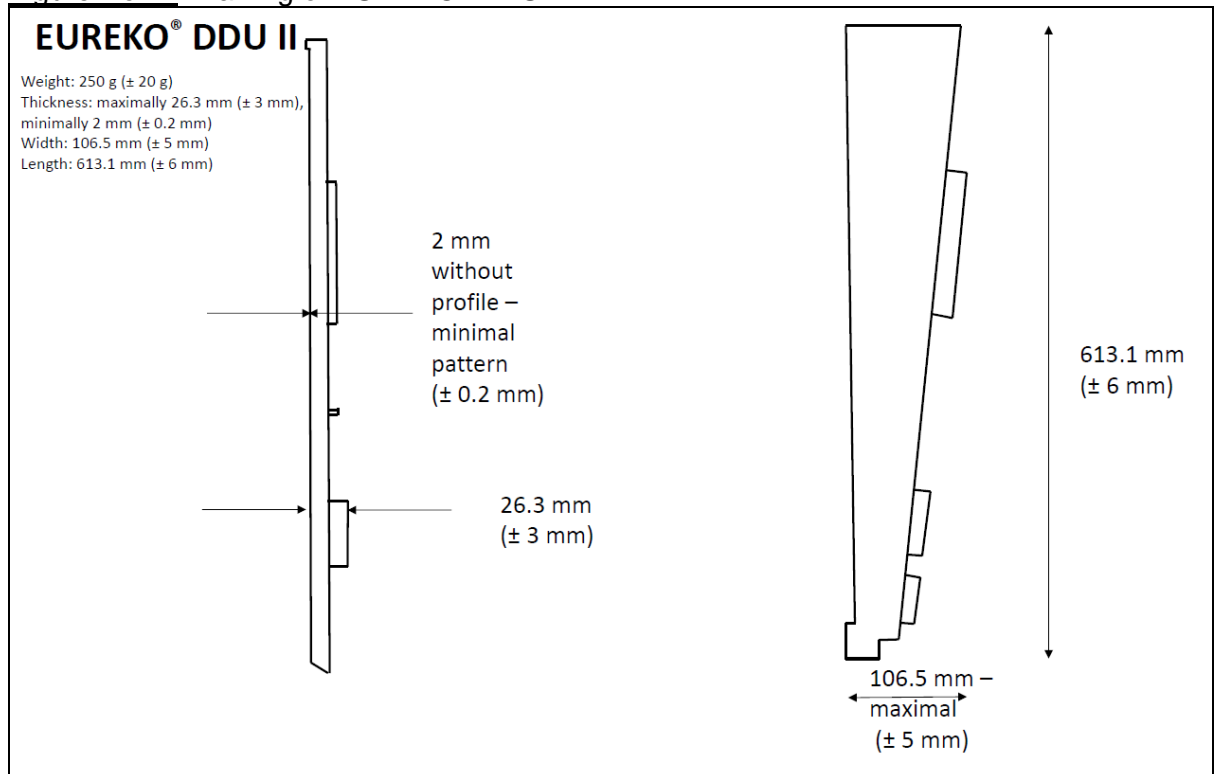
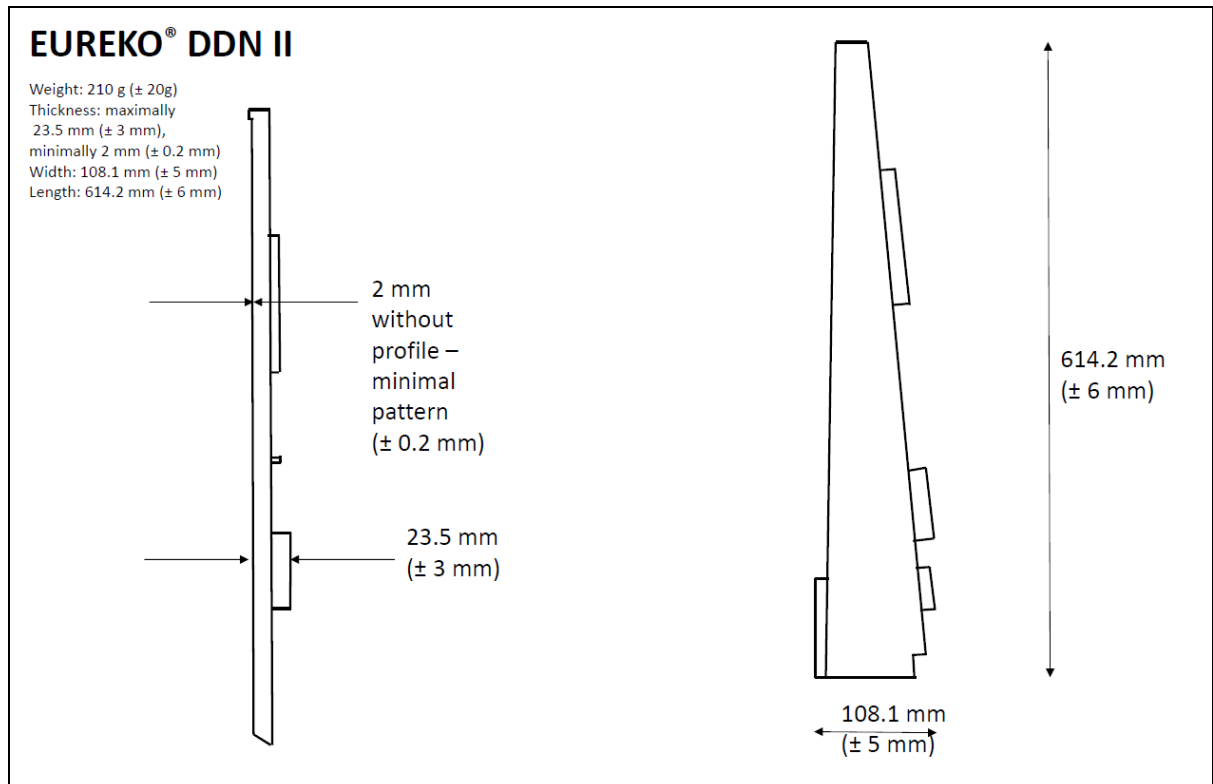


Figure No. 8: Drawing of EUREKO® DDN II



The PRSs are fixed by use of nails and wind rivets according to the manufacturer’s instructions. All mounting and fixing details shall be executed according to the manufacturer’s installation manual.

3.2 Intended use

PRSs are not load-bearing and are used for discontinuous covering of the sloping and high-pitched roofs. PRSs are fastened in the place of prepared holes or in the place recommended by the manufacturer. They are fixed against uplifting by bending down of the wind rivets at the bottom of sheet. Minimal dilatation joint shall be determined according to the manufacturer’s installation instructions.

3.3 Working life/durability

The assessment methods included or referred to in the used EAD have been written based on the manufacturer’s request to take into account a working life of the discontinuous plastic roofing sheets for the intended use of 25 years when installed in the works /provided that the discontinuous plastic roofing is subject to appropriate installation. These provisions are based upon the current state of the art and the available knowledge and experience.

When assessing the product the intended use as foreseen by the manufacturer shall be taken into account. The real working life may be, in normal use conditions, considerably longer without major degradation affecting the basic requirements for works¹.

The indications given as to the working life of the construction product cannot be interpreted as a guarantee neither given by the product manufacturer or his representative nor by EOTA when drafting this EAD nor by the Technical Assessment Body issuing an ETA based on this

EAD, but are regarded only as a means for expressing the expected economically reasonable working life of the product.

Note: ¹The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject, as well as on the particular conditions of the design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product may also be shorter than referred to above.

4 Summary of the test results and evaluations

Table No. 2: Summary of the test results and evaluations of the PRSs

No	Essential characteristic and method of verification/assessment	Test result	Test report/ Classification report
Essential Requirement 1: Mechanical resistance and stability			
No specific requirements			
Essential Requirement 2: Safety in case of fire			
1	External fire performance (Cl. 2.2.1 of EAD 220069-00-0402)	F_{roof}	-----
2	Reaction to fire (Cl. 2.2.2 of EAD 220069-00-0402)	class E	PK1-01-17-026-C-0
Essential Requirement 3: Hygiene, health and environment			
3	Content, emission and/or release of dangerous substances^{*)} (Cl. 2.2.3 of EAD 220069-00-0402)	content of cadmium ≤ 0.01 % per weight < 1 mg/kg	100-058661
Essential Requirement 4: Safety and accessibility in use			
4	Hard body impact resistance (Cl. 2.2.4 of EAD 220069-00-0402)	$E = 10$ J	010-037888
5	Tensile strength and elongation (Cl. 2.2.5 of EAD 220069-00-0402)	$\sigma_{t,c} = 17.3$ MPa $\epsilon_t = 3.9$ %	
6	Dimensions (Cl. 2.2.6 of EAD 220069-00-0402) -length -width -thickness -deviation of flatness	see relevant test reports see relevant test reports see relevant test reports No performance assessed	010-037888 010-037889 -----
7	Weight (Cl. 2.2.7 of EAD 220069-00-0402)	see relevant test reports	010-037888 010-037889
8	Flexural strength (Cl. 2.2.8 of EAD 220069-00-0402)	$\sigma_{fM,c} = 23.06$ MPa	010-037888
9	Pull-through resistance (Cl. 2.2.9 of EAD 220069-00-0402)	No performance assessed	-----
10	Tear resistance (Cl. 2.2.10 of EAD 220069-00-0402)	$F_{s,c} = 621$ N	060-044544
11	UV stability (Cl. 2.2.11 of EAD 220069-00-0402)	No performance assessed	-----
12	Resistance to heat (Cl. 2.2.12 of EAD 220069-00-0402) -change of length -change of width -change of thickness -deviation of flatness -residual proportion of characteristic value of flexural strength after heat	$\Delta_{el} = -0.1$ % $\Delta_{eb} = -0.1$ % $\Delta_{ed} = 0$ % No performance assessed $\sigma_{fM,c,h} = 23.22$ MPa	010-037888

No	Essential characteristic and method of verification/assessment	Test result	Test report/ Classification report
	-characteristic value of tear resistance after heat	No performance assessed	-----
13	Resistance to low temperature (Cl. 2.2.13 of EAD 220069-00-0402) -hard body impact resistance at the temperature (-20±2)°C -coefficient of freeze/thaw resistance KM_{f25} for characteristic value of flexural strength	E = 10 J KM_{f25} = 86.2 %	060-044499
14	Resistance to water penetration (Cl. 2.2.14 of EAD 220069-00-0402)	No performance assessed	-----

Notes: *)

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the products falling within its scope(e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products directive, these requirements need also to be complied with, when and where they apply.

Category SW2: Product with no direct contact to but possible impact on soil-, ground- and surface water

Category SW2 is applicable for products which can be leached by rain and could release dangerous substances which can have an impact on soil and water.

5 Conclusions

The flat and profiled (with a pattern) plastic roofing sheets made of recycled material for fully supported discontinuous roofing “**EUREKO® CPS; EUREKO® DDS II; EUREKO® DDU II; EUREKO® DDN II**” have been tested, evaluated and assessed in accordance with European Assessment Document (EAD) No. 220069-00-0402 for flat and profiled (with a pattern) plastic roofing sheets made of recycled material for fully supported discontinuous roofing, in order to put on the market only products corresponding to the technical specifications.

6 List of available Test Reports

Classification report No. PK1-01-17-026-C-0 of 10.04.2017, issued by PAVUS a.s., Notified Body 1391.

Test report No. 100-058661 of 03.02.2017, issued by TZÚS Praha, s.p., Odštěpný závod Zkušební ústav lehkého průmyslu, Testing laboratory No. 1018.9.

Test report No. 010-037888 of 27.03.2017, issued by TZÚS Praha, s.p., Central laboratory – testing department Prague, Testing laboratory No. 1018.3.

Test report No. 010-037889 of 27.03.2017, issued by TZÚS Praha, s.p., Central laboratory – testing department Prague, Testing laboratory No. 1018.3.

Test report No. 060-044544 of 26.01.2017, issued by TZÚS Praha, s.p., Central laboratory – testing department Brno, Testing laboratory.

Test report No. 060-044499 of 16.01.2017, issued by TZÚS Praha, s.p., Central laboratory – testing department Brno, Testing laboratory.