

## REACTION TO FIRE TEST REPORT No EUI-23-HC-000242

---

**Test Standard:** **BS EN ISO 1716: 2018** - Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value)

**Other reference document:** **BS EN 13238: 2010** – Reaction to fire tests for building products – Conditioning procedures and general rules for selection of substrates

**Product:** FUTURAL also known as HJ TECH PVDF Pre-coated Solid Aluminium

**Applicant:** ANHUI HJ TECH CO., LTD  
#568 South Huizhou Rd  
Chuzhou City  
Anhui Province  
239065  
CHINA



## 1. DOCUMENT TRACKING

Revision Index.	Modification
0	Original document

## 2. OBJECT

The results reported in this document are intended to determine, under specified conditions, the gross heat of combustion (GHC) of homogeneous and heterogeneous products.

## 3. INFORMATION ABOUT THE TESTED PRODUCT

**Sampling:** The tested sample has not been subject of a sampling, thus the results apply to the sample as received.

**Date of arrival:** May 10, 2023

**The information below were provided by the applicant who attests their accuracy.**

**Manufacturer / supplier:** ANHUI HJ TECH CO., LTD  
#568 South Huizhou Rd  
Chuzhou City  
Anhui Province  
239065  
CHINA

**Identification of the product:** FUTURAL also known as HJ TECH PVDF Pre-coated Solid Aluminium

### General description of the product:

Composition Coated Solid Aluminium

Thickness 3 mm

Mass per unit area 8.18 kg/m<sup>2</sup>

Density 2727 kg/m<sup>3</sup>

**PVDF Topcoat** Reference: PVDF Paint  
Supplier: Information provided and kept within the project folder at the laboratory facility but withheld on the report for commercially sensitive reasons  
Thickness: 40 microns  
Mass per unit area: 0.06 kg/m<sup>2</sup>  
Colour: Wide range of colour  
Relative to the final product: 0.73%

**Polyester Front Primer Coating** Reference: Polyester Primer Paint  
Supplier: Information provided and kept within the project folder at the laboratory facility but withheld on the report for commercially sensitive reasons  
Thickness: 6 microns  
Mass per unit area: 0.008 kg/m<sup>2</sup>  
Colour: White  
Relative to the final product: 0.1%

Flat Aluminum Coil sheet    Supplier: Information provided and kept within the project folder at the laboratory facility but withheld on the report for commercially sensitive reasons  
 Thickness: 3 mm  
 Mass per unit area: 8.1 kg/m<sup>2</sup>  
 Relative to the final product: 99%  
 Not tested According to the conventional classification of the Commission Decision 96/603/EC, as amended 2000/605/EC as well as BS EN ISO test standard.

Polyester Back Coating    Reference: Polyester Back Paint  
 Supplier: Information provided and kept within the project folder at the laboratory facility but withheld on the report for commercially sensitive reasons  
 Thickness: 12 microns  
 Mass per unit area: 0.014 kg/m<sup>2</sup>  
 Colour: Grey  
 Relative to the final product: 0.17%

**Compounds numbered in order of occurrence, from external to internal face of the product:**

No	Nature	Thickness (mm)	Mass per unit area (kg/m <sup>2</sup> )	Substantial
1	PVDF Topcoat	0.04	0.06	No*
2	Polyester Front Primer Coating	0.006	0.008	
3	Flat Aluminium Coil Sheet	3	8.1	Yes*
4	Polyester Back Coating	0.012	0.014	No

\*Two or more non-substantial layers that are adjacent to each other (i.e. with no substantial component(s) in between the layers) are regarded as one non-substantial component when they collectively comply with the requirements for a layer being a non-substantial component.

\*Not tested According to the conventional classification of the Commission Decision 96/603/EC, as amended 2000/605/EC as well as BS EN ISO 1716 test standard.

**Specimen:**

Form of construction    Aluminium alloy coil, in the required dimensions, is cleaned by treating with appropriate chemicals. The coil is then coated with paint, and ovens curing process follows. The coated coil is cut into required sizes at last.

Sampling procedure    The tested sample has not been subject of a sampling, thus the results apply to the sample as received.

**4. TESTS**

**4.1. SPECIMENS PREPARATION**

Bulk material:

For PVDF Topcoat red colour, 50 g were taken from the component of the supplied element and reduced into powder.

For PVDF Topcoat black colour, 50 g were taken from the component of the supplied element and reduced into powder.

For PVDF Topcoat white colour, 50 g were taken from the component of the supplied element and reduced into powder.

For Polyester Front Primer Coating, 50 g were taken from the component of the supplied element and reduced into powder.

For Polyester Back coating, 50 g were taken from the component of the supplied element and reduced into powder.

#### Specimen Preparation:

For PVDF Topcoat red colour, the specimen was prepared by mixing about 0.5 g (to the nearest 0.1 mg) of component and about 0.5 g (to the nearest 0.1 mg) of paraffin oil.

For PVDF Topcoat black colour, the specimen was prepared by mixing about 0.5 g (to the nearest 0.1 mg) of component and about 0.5 g (to the nearest 0.1 mg) of paraffin oil.

For PVDF Topcoat white colour, the specimen was prepared by mixing about 0.5 g (to the nearest 0.1 mg) of component and about 0.5 g (to the nearest 0.1 mg) of paraffin oil.

For Polyester Back Coating, the specimen was prepared by mixing about 0.5 g (to the nearest 0.1 mg) of component and about 0.5 g (to the nearest 0.1 mg) of paraffin oil.

For Polyester Front Primer Coating, the specimen was prepared by mixing about 0.5 g (to the nearest 0.1 mg) of component and 0.5 g (to the nearest 0.1 mg) of Paraffin oil.

## 4.2. CONDITIONING

Prior to tests, specimens have been conditioned at a temperature of  $(23 \pm 2)$  °C and relative humidity of  $(50 \pm 5)$  %, at least 48 h and until stabilization of mass, according to BS EN 13238 standard.

## 4.3. TESTING

Tests have been performed on 15<sup>th</sup> and 16<sup>th</sup> of May 2023.

At least 3 specimens have been tested.

Tests have been performed in accordance with the procedure described in the test standard.

## 5. RESULTS

### 5.1. TEST CONDITIONS

Room Temperature: 21.5 °C

E (MJ/K): Water equivalent: 0.01000684 MJ/K

### 5.2. MEASURE

Components				GHC	
No	Nature	Colours	Samples	MJ/kg	MJ/m <sup>2</sup>
1	PVDF Topcoat	Red	N° 1	14.6634	0.9
			N° 2	15.0283	
			N° 3	15.1650	
			Average	14.95	
		Black	N° 1	15.5277	0.92
			N° 2	15.3917	
			N° 3	15.1598	
			Average	15.36	
		White	N° 1	16.4118	0.95
			N° 2	15.7349	
			N° 3	15.3025	
			Average	15.82	
1	Polyester Front Primer Coating	White	N° 1	14.1590	0.11
			N° 2	14.0815	
			N° 3	13.5004	
			Average	13.91	

2	Polyester Back Coating	Grey	N°	1	16.6513	0.23
				2	16.3954	
				3	16.3976	
			Average		16.48	

As the laboratory was not responsible for the sampling stage, thus the test results only apply to the tested specimen.

**5.3. OBSERVATIONS**

-

**6. CONCLUSIONS**

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

The attention is drawn on the fact that the results obtained with the sample being the subject of the present test report can not be generalized without justification of the representativeness of the samples and tests.

Belfast, on 16 June 2023

**SIGNED**

**APPROVED**



Hamed Zoghi  
Project leader



Damien Flammier  
Technical Manager

**END OF TEST REPORT**