

# Release of Dangerous Substances - The Way Forward

Antonio Caballero González

# Background

## Basic Work Requirement 3: Hygiene, health & the environment

The construction works must be designed and built in such a way that they will, throughout their life cycle, not be a threat to the hygiene or health and safety of workers, occupants or neighbours, nor have an exceedingly high impact, over their entire life cycle, on the environmental quality or on the climate during their construction, use and demolition, in particular as a result of any of the following:

- (a) the giving-off of toxic gas;
- (b) the emissions of dangerous substances, volatile organic compounds (VOC), greenhouse gases or dangerous particles into indoor or outdoor air;
- (c) the emission of dangerous radiation;
- (d) the release of dangerous substances into ground water, marine waters, surface waters or soil;
- (e) the release of dangerous substances into drinking water or substances which have an otherwise negative impact on drinking water;
- (f) faulty discharge of waste water, emission of flue gases or faulty disposal of solid or liquid waste;
- (g) dampness in parts of the construction works or on surfaces within the construction works

# The Starting Point of Harmonisation

## Horizontal, Harmonised Test Methods



EUROPEAN COMMISSION  
ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL

Chemicals and construction  
**Construction**

Brussels, 16<sup>th</sup> March 2005  
**M /366 EN**

HORIZONTAL COMPLEMENT TO THE MANDATES

TO CEN/CENELEC

CONCERNING THE EXECUTION OF STANDARDISATION WORK FOR THE

**DEVELOPMENT OF HORIZONTAL STANDARDISED ASSESSMENT METHODS  
FOR HARMONISED APPROACHES RELATING TO DANGEROUS SUBSTANCES  
UNDER THE CONSTRUCTION PRODUCTS DIRECTIVE (CPD)**

**Emission to indoor air, soil, surface water and ground water**

DESCRIPTION OF THE SPECIFIC MANDATE

# Emissions Into Indoor Air

**EN 16516:2017**

„Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air“

**Published by CEN on 4 October 2017**



© Umweltbundesamt, Klaus-Reinhard Brenske

# Emissions Into Soil, Surface & Groundwater

## TS 16637-2:2014

“Construction products - Assessment of release of dangerous substances - Part 2: Horizontal dynamic surface leaching test”

**EN expected to be published  
by CEN 2018/2019**



© VDPM / Fraunhofer IBP

# The Next Step in Harmonisation

## Implementation of Test Methods in Product Standards

 Ref. Ares(2012)1498403 - 14/12/2012



**EUROPEAN COMMISSION**  
ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL

Sustainable Growth and EU 2020  
**Sustainable Industrial Policy and Construction**

Brussels, 5 December 2012

**M/116 Amendment 1 EN**

**AMENDMENT TO:**

**MANDATE TO CEN/CENELEC  
CONCERNING THE EXECUTION OF STANDARDISATION WORK  
FOR HARMONISED STANDARDS ON MASONRY PRODUCTS (M/116)**

**EXPLANATORY NOTE**

The Construction Products Directive (89/106/EC) – CPD covers six essential requirements for

# Declaring Performance

## The costly approach

### Step 1:

Product Type Determination

Annex V of the CPR:

assessment of the performance of the construction product on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of that product

- **Step 2:**

Verification of the constancy of performance

Annex V of the CPR:

factory production control

testing of samples

# Declaring Performances

## Cost-efficient approach

### SIMPLIFIED PROCEDURES

#### Article 36

#### Use of Appropriate Technical Documentation

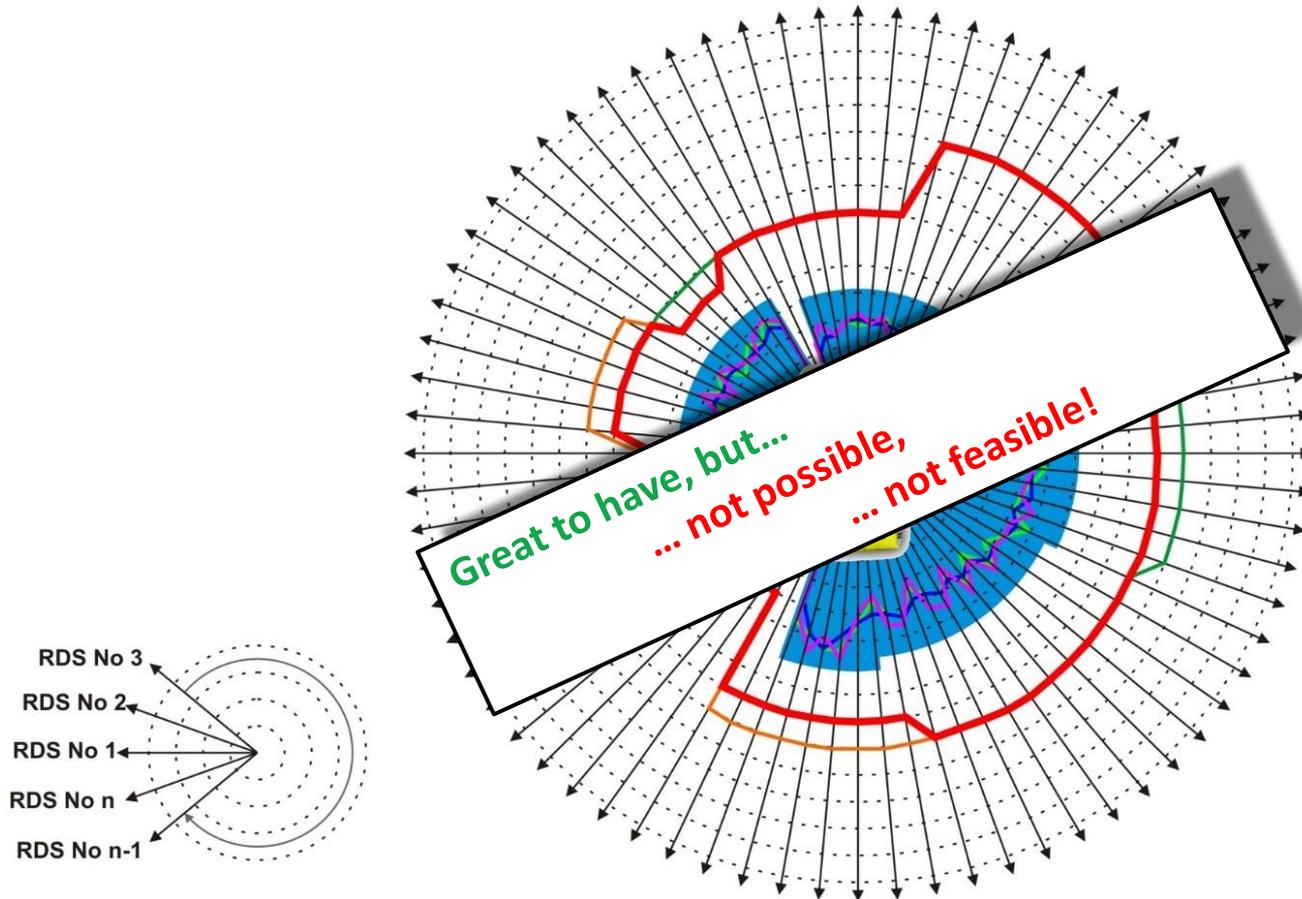
1. In determining the product-type classification, the manufacturer may replace type-testing or type-approval by Appropriate Technical Documentation

(a) For a product, several essential characteristics of the construction product, which the manufacturer places on the market, that product is deemed to achieve a certain level or class of performance without testing or calculation, or without further testing or calculation, in accordance with the conditions set out in the relevant harmonised technical specification or a Commission decision;

**a.k.a. Classification Without (Further) Testing approach**

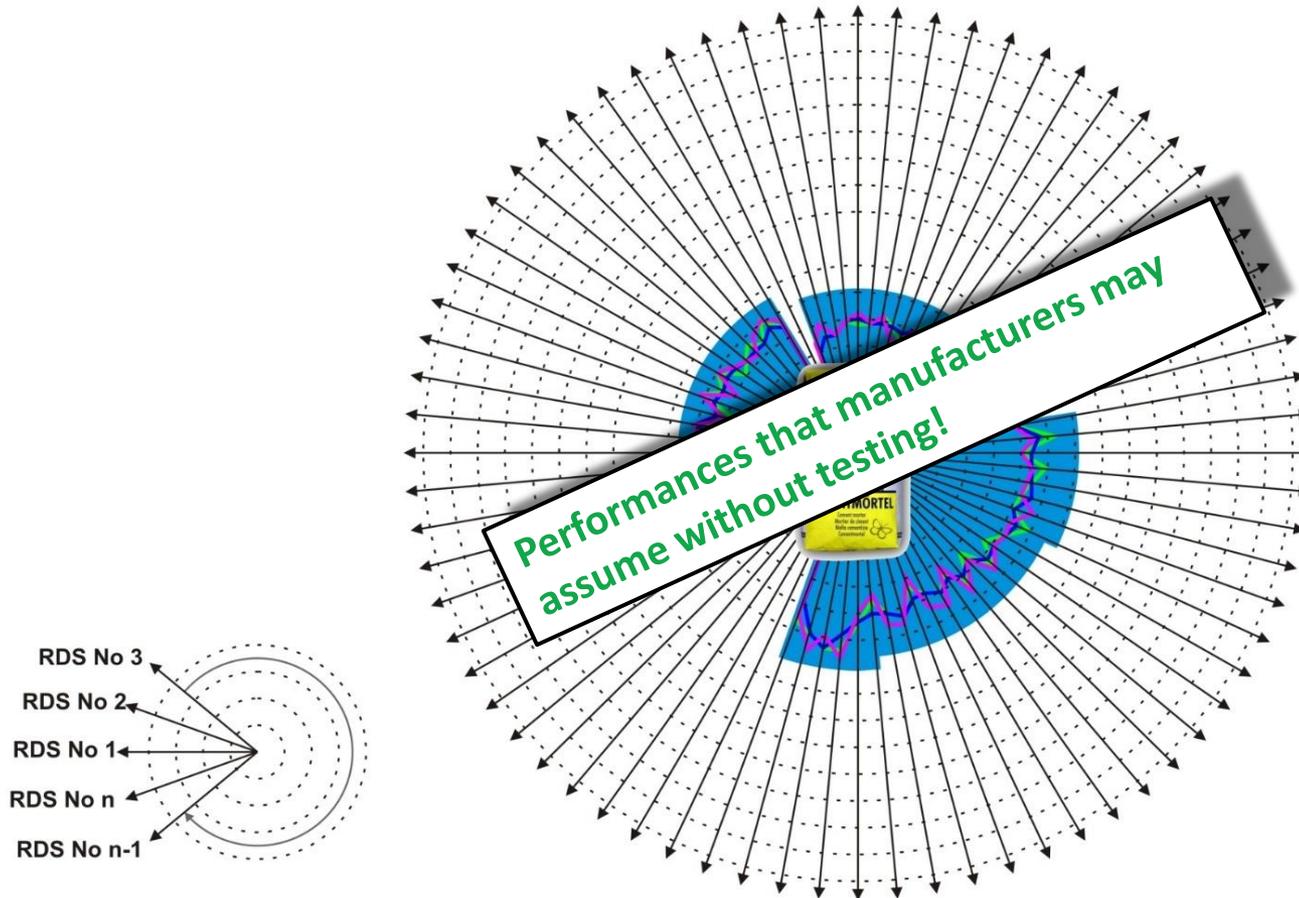
# Fitness for Use Approach

Attestation that the product fulfils the requirements



# CWT / CWFT Approach

Attestation, that a product is deemed to perform to a certain level or class without (further) testing



# Feasibility

- **EMO has collected historic and recent data from its members**
- **In addition there is a lot of third party historic data**
- **We are ready to go!**
  - 1<sup>st</sup> Step: Release of DS from mineral based products
  - 2<sup>nd</sup> Step: Release of VOC into indoor air
  - ...

# Proof of Feasibility

## Fire Classification without Testing of Organic Products

No more SBI fire testing!

L 177/4

EN

Official Journal of the European Union

8.7.2017

COMMISSION DELEGATED REGULATION (EU) 2017/1228

of 20 March 2017

on the conditions for classification, without testing, of external renders and internal plasters based on organic binders covered by the harmonised standard EN 15824 and rendering and plastering mortars covered by the harmonised standard EN 998-1 with regard to their reaction to fire

(Text with EEA relevance)

ANNEX

Products <sup>(1)</sup>	Maximum organic content <sup>(2)</sup> (% in weight)	Maximum mass per unit area <sup>(3)</sup> (kg/m <sup>2</sup> )	Class <sup>(4)</sup>
External renders and internal plasters based on organic binders covered by the harmonised standard EN 15824	≤ 9,0	≤ 4,0	B - s2, d0
External renders and internal plasters based on organic binders covered by the harmonised standard EN 15824 and Rendering and plastering mortars covered by the harmonised standard EN 998-1	≤ 2,5	≤ 6,0	A2 - s1, d0
	≤ 4,0	≤ 4,0	
	≤ 5,0	≤ 2,0	

<sup>(1)</sup> Products delivered in paste or in powder form and used for external and internal covering on walls, columns, partitions, and ceilings. The performance of substrates shall be at least class A2 — s1, d0 and the density shall not be less than 525 kg/m<sup>3</sup>.

<sup>(2)</sup> Related to the solids content (comparable to the fully dried plaster/render as applied to the substrate).

<sup>(3)</sup> Related to the wet product (ready to use state).

<sup>(4)</sup> Class as set out in Table 1 of the Annex to Delegated Regulation (EU) 2016/364.

# Next Level of Testing

Bridging the gap between the laboratory and reality



© VDPM / Fraunhofer IBP