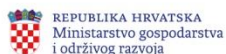




CIRCULAR ECONOMY
APPROACHES IN
SOLID WASTE
MANAGEMENT



Project co-financed by the European Union from the Cohesion Fund

REGIONAL WORKSHOPS ON CIRCULAR ECONOMY APPROACHES WITH FOCUS ON CONSTRUCTION SECTOR

REQUIREMENTS FOR ISSUANCE OF BUILDING PERMITS OR IN PUBLIC PROCUREMENT. BEST PRACTICES FROM THE NETHERLANDS

Construction Products Regulation

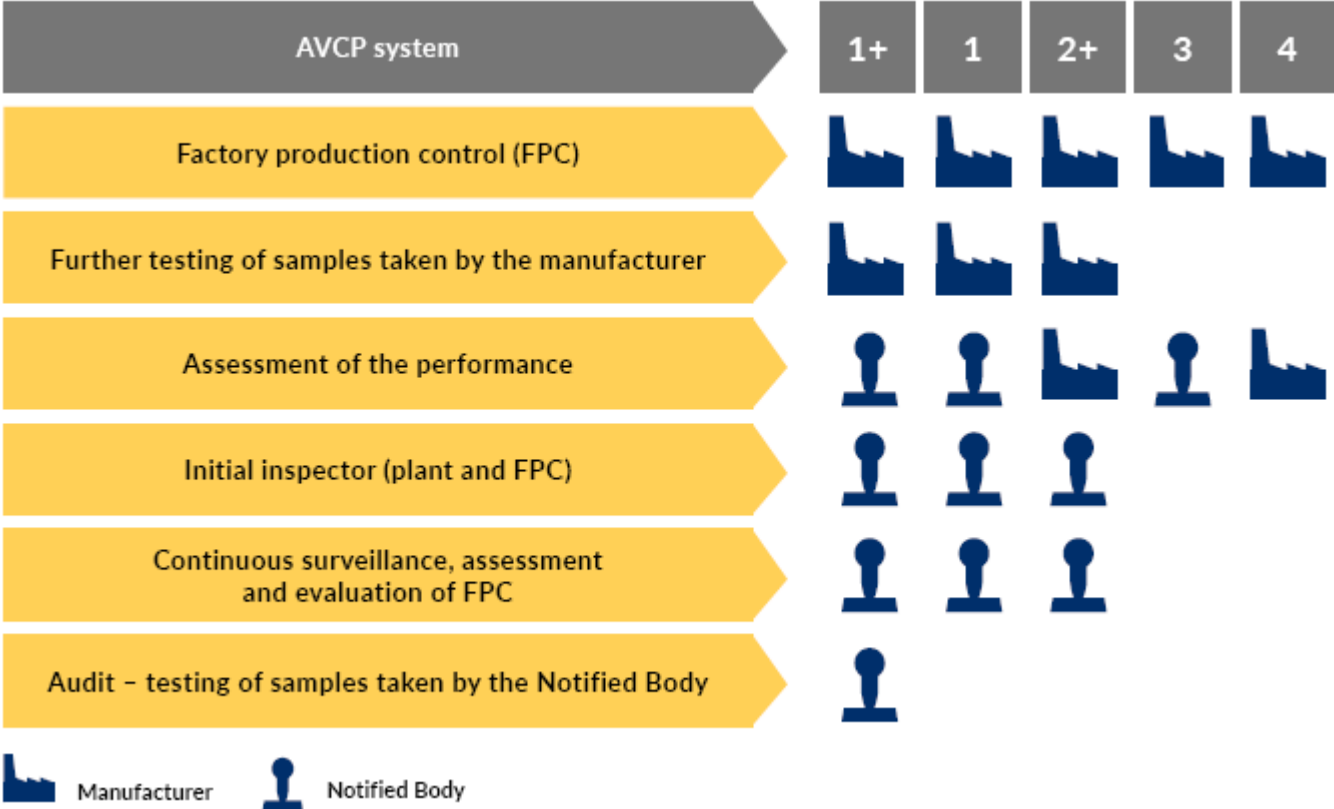
The lack of legal and economic instruments is the reason for the low supply and demand of recycled materials.

Construction Products Regulation No 305/2011 (CPR) - sets methods and criteria for assessing the performance of construction products, and the conditions for the use of CE marking. CP must meet:

- essential characteristics of construction products – set on EU level in harmonized standards (compulsory CE) and European Assessment Documents (voluntary CE)
- specific requirements set by EU member states - for the basic requirements listed in Annex I - fire safety, mechanical resistance and stability, **environmental**, energy and other
- CPR mentions EPDs as a **possible** mean to assess the sustainable use of natural resources and the impacts of construction works on the environment
- manufacturer shall draw up a declaration of performance
- Assessment and Verification of Constancy of Performance - to ensure that the DoP is accurate and reliable. Five different assessment procedures with decreasing severity (System 1+, 1, 2+, 3, 4). Which one is applicable – in harmonized technical specifications and depends on type of product and type of essential characteristic (e.g. compressive strength)

Construction Products Regulation

- Assessment and Verification of Constancy of Performance



Standards

Eco-design of Energy Related Products Directive - sets minimum environmental performance requirements for product groups

- Covers: 1) Energy-using products 2) Energy related products (windows, insulation)
- To affix the CE marking: harmonized standard, specific requirements, independent conformity assessment, test to check conformity, Declaration of Conformity
- Specific requirements - limit values, minimum lifetime (lamps), minimum recycled content
- Generic requirements - “recyclable”

Standard ISO 20887 (2020) for Design for Disassembly and Adaptability (DfD/A)

- deals with environm., social, economic, technical and functional aspects of sustainability
- provides just framework - does not contain testing methods or compliance criteria
- describes end-of-life scenarios that should be considered during the whole life cycle
- provides guidance on measuring DfD/A performance - targets and perform. monitoring
- does not set specific levels of performance for DfD/A

Legal and economic instruments

DfD/A principles in a Building Code – currently no examples

- **Code for Sustainable Homes** was temporarily mandatory in UK - sellers were required to issue buyers a sustainability certificate which measures sustainability by a row of 1 to 6 stars against nine sustainability categories
- **Categories:** • Energy and CO2 Emissions • Water • Materials (Environmental impact of materials and sourcing of materials) • Surface Water Run-off • Waste (Selective storage; Site Waste Management and Composting) • Pollution • Health and Well-being • Management • Ecology
- **Mandatory minimum performance standards** are set for seven specific areas:
 - Environmental impact of materials;
 - Management of surface water run-off from;
 - Storage of non-recyclable and recyclable waste;
 - Emission rate;
 - Indoor water use;
 - Fabric energy efficiency;
 - Lifetime homes.

Legal and economic instruments

Total Credits Available, Weighting Factors and Points			
Categories of Environmental Impact	Total Credits in each Category	Weighting Factor (% points contribution)	Approximate Weighted Value of each Credit
Category 1 Energy and CO ₂ Emissions	31	36.4%	1.17
Category 2 Water	6	9.0%	1.50
Category 3 Materials	24	7.2%	0.30
Category 4 Surface Water Run-off	4	2.2%	0.55
Category 5 Waste	8	6.4%	0.80
Category 6 Pollution	4	2.8%	0.70
Category 7 Health and Well-being	12	14.0%	1.17
Category 8 Management	9	10.0%	1.11
Category 9 Ecology	9	12.0%	1.33
Total	–	100.0%	–

Legal and economic instruments

Assessment Criteria

Criteria	Credits	Mandatory Elements
Storage of household waste	None	All Levels
<p>Storage of recyclable household waste</p> <p>Dedicated internal storage for recyclable household waste can be credited where there is no (or insufficient) dedicated external storage capacity for recyclable material, no <i>Local Authority collection scheme</i> and where the following criteria are met:</p> <p>At least three internal storage bins:</p> <ul style="list-style-type: none"> • all located in an <i>adequate internal space</i> • with a minimum total capacity of 60 litres. 	2	
<p>Storage of recyclable household waste</p> <p>A combination of internal storage capacity provided in an adequate internal space, with either:</p> <ul style="list-style-type: none"> • a Local Authority collection scheme, or • no Local Authority collection scheme but adequate external storage capacity. 	4	

Legal and economic instruments

Table 1.6: Relationship Between Total Percentage Points Score and Code Level

Total Percentage Points Score (equal to or greater than)	Code Levels
36 Points	Level 1 (★)
48 Points	Level 2 (★★)
57 Points	Level 3 (★★★)
68 Points	Level 4 (★★★★)
84 Points	Level 5 (★★★★★)
90 Points	Level 6 (★★★★★★)

Legally-binding Environmental Performance Thresholds

Environmental Performance of Buildings - indicates the environmental impact of all materials used in a building

- Not only sum of product/ element EPDs but also scenarios (distribution, installation, maintenance, use, end-of-life)
- National Environmental Database– producers must submit LCA of their products/materials
- The LCA profile consists of various environmental impacts per category, such as depletion of raw materials, climate change, toxicity and acidification.
- The environmental performance is calculated by multiplying the results of the LCA (the environmental impacts per category) with weighting factors – aggregated value
- In order to be able to compare different building sizes we divide the aggregated value through the Gross Floor Area (GFA) and the lifespan of the building
- Mandatory for new office buildings (larger than 100 m²) and new-build homes
- The lower the EPB, the more sustainable the use of materials is. As of January 1, 2018, a maximum limit value of 1.0 applies to the environmental performance of buildings. On 1 July 2021, the environmental performance for new homes (not for offices) was tightened from 1.0 to 0.8. The aim is to halve it by 2030. In GPP it could be lower than the legally-binding.