

# Definition of Application Areas

Classification of interior and exterior surfaces according to varying climatic stress for choosing suitable paints and coating materials.

## Product Description

Field of Application

Exterior and interior surfaces are subjected to varying climatic stress, according to conditions on site and intended use. This has to be considered for choosing suitable coating materials and systems. In some cases it is not accurate enough to divide products only in two classes (exterior/interior use). Particularly in the interiors a wide range of different loads in varying intensity may appear, e.g. caused by changing temperatures, water vapour or condensation.

In normal living spaces, for instance, the room climate usually is constant and non-critical, but can be completely different in production halls or large-scale catering establishments. In all cases the application areas are defined as being interior rooms.

This Technical Information defines 5 different application areas, depending on the climatic conditions on site and the intended use. By means of exact descriptions and listed examples the construction to be coated can easily be classified.

The suitability of each Caparol product for the particular field of application is specified in a special Technical Information.

The classification enables a safe choice of products for varying conditions related to exterior and interior room climate.

Material Properties

### Classification of Application Areas



Application Areas		
	Description	Examples
<b>Interior 1</b>	Heated interior spaces with predominantly constant temperatures and normal climatic conditions.	Residences, schools, offices, showrooms, rooms within hotels, special-care homes or healthcare facilities.
<b>Interior 2</b>	Interior spaces/rooms with an occasionally higher air moisture (relative humidity), but without constant forming of condensation water on the surface.	Basement garages, private bathrooms/shower rooms and rooms of similar use, working areas and utility rooms, storage depots and workshops, uninhabited cellar rooms.
<b>Interior 3</b>	Closed, unheated, ventilated interior spaces and heated interior rooms with a permanently higher relative humidity and occasional loads of splash water. Walls and ceilings with a surface temperature temporarily below the dew point.	Canteen kitchens, lavatories, production halls with high water vapour loads, walls and ceilings of indoor swimming pools without permanent loads of splash water, cold rooms.
<b>Exterior 1</b>	Exterior surfaces, not subjected to direct weathering, but stressed by occasionally occurring condensation water or frost-dew loads.	Bottom views (soffits) of balconies, recessed balconies, ceilings of open parking decks, walls and ceilings of passage undergrounds, roofed and protected entrance areas.
<b>Exterior 2</b>	Exterior surfaces subjected to direct weathering.	Conventional façades of buildings, walls and other exterior surfaces, suitable for being coated.

The suitability of Caparol products for the particular application area is indicated in a table within the relevant Technical Information. The following three classes of suitability are possible:

- inapplicable
- o of limited suitability
- + suitable

Class (o) „of limited suitability“ allows the use when special requirements are given on site. Please request our technical assistance (advice), if necessary.

### Explanation:

Resistance against moisture, varying temperatures and frost-dew cycles is essential for the durability of a coating. Even when a surface is not subjected to water loads by rainfall water may occur due to condensate when the dew point is reached or exceeded on the surface. The durability of usual paint materials is not noticeably influenced when this condition is only occasional and for a limited period, as for e.g. interior surfaces in kitchen or bathrooms without splash water loads (Application Area: Interior 2). However, in special situations the moisture of condensed water can affect the surface at regular intervals and over a longer period. This may happen in production halls with a high moisture or in other damp locations (Interior 3). In these cases it is advisable to use coating materials with a higher resistance to moisture loads. A similar moisture situation may also appear on surfaces that are supposed to be dry, for example ceilings of open parking decks (Exterior 1). In most cases the construction is made of concrete and reinforcing steel. When the construction cools down during the night and then has contact with warm air by day, condensed water can occur on the surface and may deteriorate unsuitable coating materials.

All these criteria are considered by the classification of Caparol products into individual application areas for choosing the suitable product.

## Application

Note

- The appropriate structural protection of component parts (construction elements) must always be guaranteed and has to be sound/intact.
- The suitability of each product for the relative application area applies only for durability of the coating under predominant climatic conditions. Further feasible influences, e.g. soiling, chemical loads, algal or fungal (microbiocidal) attack etc., are not considered and have to be estimated according to the relevant current Technical Information.
- Due to their ingredients façade paints with content of a preservative against deterioration in the coating film against fungal and algal attack are not classified in the classes Interior 1 + 2, even if their climatic durability is given.
- The use of solvent-based paints, enamels and glazes is usually possible in the interiors, but may lead to an unpleasant odour. Hence these products are classified as (o) of limited suitability for interior use (Interior 1, 2, 3).
- The classifications of application areas do not include areas with extremely high loads caused by permanent water condensation and splash water loads such as shower cubicles, steam saunas, sides of the pool/pool edges of indoor swimming pools. In these cases special coating products are required. Please request for special advice, if necessary.

## Advice

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