

1.0 Durability and Climatic Zones

Introduction

In general, the maximum durability for our products is ensured for vertical outdoor exposure only. We define a deviant application $\geq 10^\circ$ as a horizontal application. General information regarding the basis of evaluating the maximal durability can be found in our data sheets which are based only on the condition that vertical application in a moderate climate is undertaken.

Influencing Variables

In addition to horizontal/vertical application, also different climates can have a significant influence. Due to the additional influences like mechanical abrasion, chemical influences, altitude etc. it is not possible to transfer the maximum durability on each product. Consequently no warranty claims can be derived from the above information.

Applicability

The specification is valid for products suitable for vertical and horizontal application only. For products recommended for vertical use only, the vertical durability applies only to vertical uses and a horizontal durability is not applicable.

Special Locations

High elevations	In mountain areas UV damage is increased over exposures at sea level. This is due to the air being thinner, and therefore damage from UV radiation increases significantly.
Congested urban or industrial areas	Due to increased smog, pollutants, and particulates in the atmosphere in congested urban and industrial areas horizontal applications have reduced durability expectations. The horizontal application traps the chemicals on the surface of the material, increasing the impact of UV exposure and reducing durability.

Durability in years

Climatic Zone 1 (moderate)		Climatic Zone 2 (humid / warm)		Climatic Zone 3 (dry / hot)	
vertical	horizontal	vertical	horizontal	vertical	horizontal
12	6	10	5	8	4
11	5,5	9	4,5	7	3,5
10	5	8	4	6	3
9	4,5	7	3,5	5	2,5
8	4	6	3	4	2
7	3,5	5	2,5	3	1,5
6	3	4	2	2	1
5	2,5	3	1,5	1,5	0,75
4	2	2	1	1	0,5
3	1,5	1	0,5	0,5	0,25
2	1	-	-	-	-
1	0,5	-	-	-	-

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Climatic Zones – Country Overview				
Climatic Zone 1 (moderate)	Climatic Zone 2 (tropical)			Climatic Zone 3 (subtropical)
Albania	Afghanistan	Japan	Togo	All sites over 1000 m above sea level
Andorra	Angola	Kazakhstan	Trinidad & Tobago	
Austria	Armenia	Kenya	Turkey	
Belarus	Australia**	Korea (South)	Turkmenistan	
Belgium	Azerbaijan	Kyrgyzstan	Uganda	Algeria
Bosnia & Herzegovina	Bahamas	Laos	Uruguay	
Bulgaria	Bangladesh	Lesotho	Uzbekistan	Australia** – Above a line 100 km north of Perth/Brisbane
Croatia	Barbados	Liberia	Venezuela	
Czech Republic	Belize	Madagascar	Vietnam	
Denmark	Benin	Malawi	Zambia	
Ecuador	Bhutan	Malaysia	Zimbabwe	
Estonia	Bolivia	Maldives		Australia** – Desert areas
Finland	Botswana	Mali	Arizona*	
France	Brazil	Malta	California*	
Georgia	Burkina Faso	Mauritania	Florida (Southern)*	Bahrain
Germany	Burundi	Mauritius	Nevada*	Chad
Hungary	Cambodia	Micronesia	New Mexico*	Egypt
Iceland	Cameroon	Mozambique	Texas*	Eritrea
Ireland	Cape Verde	Myanmar (Burma)	Utah*	Ethiopia
Italy	Caribbean Isles	Namibia		Iraq
Kosovo	Central African Rep.	Nepal	<i>*Exceptions classified in Zone 3</i>	Israel
Latvia	Chile	New Zealand		Jordan
Liechtenstein	China	Nicaragua		Kuwait
Lithuania	Colombia	Niger		Lebanon
Luxembourg	Congo	Nigeria		Libya
Macedonia F.Y.R.	Costa Rica	Pakistan		Mexico
Moldova	Cote d'Ivoire	Panama		Morocco
Monaco	Cyprus	Papua New Guinea		Oman
Montenegro	Dominica	Paraguay		Qatar
Netherlands, the	Dominican Republic	Peru		Saudi Arabia
Norway	East Timor	Philippines		Somalia
Poland	El Salvador	Portugal		Tunisia
Romania	Equatorial Guinea	Puerto Rico		United Arab Emirates
Russia	Fiji	Rwanda		Yemen
San Marino	Gabon	Samoa		
Serbia	Gambia	San Marino		
Slovakia	Ghana	Sao Tome & Principe		
Slovenia	Greece	Senegal		
Sweden	Grenada	Sierra Leone		
Switzerland	Guatemala	Singapore		
Ukraine	Guinea	South Africa		
United Kingdom	Guinea-Bissau	Spain		
USA*	Guyana	Sri Lanka		
Vatican City	Haiti	Suriname		
	Honduras	Swaziland		
<i>*Except desert areas of the States mentioned in Zone 2</i>	India	Taiwan		
	Indonesia	Tajikistan		
	Jamaica	Tanzania		
		Thailand		

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Important Notice

Information on physical and chemical characteristics is based upon tests, practical knowledge and experience. The values listed herein are typical values and are not for use in specifications. They are intended only as a source of information and are given without guarantee and do not constitute a warranty. Because of the variety of uses and applications, the purchasers should independently determine, prior to use, the suitability of this material to their specific use and carefully consider the suitability and performance of the product. The purchaser shall assume all risks for any use and application of the material. All specifications and technical data are subject to change without prior notice, errors and omissions expected. All warranty matters are regulated by our general terms and conditions.