The “Requirements” Checklist

This checklist interrelates the material choice, the pretreatment, the environmental corrosivity classes and the expected lifetime.

Pretreatment is the most important parameter for optimizing the coating adhesion and the corrosion protection.

					Environmental corrosivity class		
Substrate	**Pretreatment**	**Primer**	**Topcoat**	**Total layer thickness (µm)**	**C1-C3**	**C4**	**C5**
Aluminium	Chromatation or chrome-free chemical conversion layer	-	PE	80	C	B	*
		EF	PE	130	C	C	*
	Oxyprim (washprimer)	-	PE	80	B	-	-
		EF	PE	130	B	A	-
Steel	Metallisation	-	PE	80	C	A	-
		EF	PE	130	C	B	*
	Hot-dip galvanisation + softly shotblasting with corundum	-	PE	80	C	A	-
		EF	PE	130	C	B	-
	Hot-dip galvanisation + chromatation or tricationic phosphatation	-	PE	80	C	C	-
		EF	PE	130	C	C	*
	Shotblasting	Zincoprim	PE	130	C	B	-
	Tricationic phosphatation	-	PE	80	C	B	-
		EF	PE	130	C	C	-
	Tricationic phosphatation + cataphoretic liquid primer (KTL)	-	PE	100	C	C	*
	Iron phosphatation	-	PE	80	A**	-	-
		EF	PE	130	A**	-	-

legend

Expected lifetime	
A	2 - 5 years
B	5 - 10 years
C	> 10 years

*: to be checked per project
**: if C1 = >10 years
EF = epoxy powder primer
PE = polyester topcoat

Environmental class	**Some environmental examples**	
	inside	**outside**
C1 Very low	Heated buildings with clean atmosphere (shop, office, hospital)	
C2 Low	Unheated buildings where condensation can occur (sports hall, warehouse)	Atmosphere with low pollution, mostly rural
C3 Intemediate	Production area with high humidity and some air-pollution (laundry, brewery, dairy factory)	Urban or industrial areas with moderate SO_2 pollution; coastal areas with low salinity
C4 High	Chemical factory, outdoor swimming pool, shipyard and dockyard in coastal area	Industrial areas with high SO_2 pollution and coastal areas with moderate salinity
C5-I Very high (industrial)	Buildings with almost permanent condensation and high pollution (indoor swimming pool)	Industrial areas with high humidity and aggressive atmosphere
C5-M Very high (marine)	Buildings with almost permanent condensation and high pollution	Coastal and offshore areas with high salinity