

Table A.10: Paint systems for corrosivity categories C2 to C5-I and C5-M
Substrate: Steel surfaces thermally sprayed, sherardized or zinc-electroplated

The paint systems given in the following table are only examples of many possible paint systems having the same performance.

Substrate ¹⁾	Sealing/priming	Paint system (see tables A.2, A.3, A.4, A.6 and A.7)
Thermally sprayed steel	It is recommended that sealing or application of the first coat of the paint system is carried out within 4h. If used, sealers shall be compatible with the subsequent paint system.	C2: S2.11, S2.12, S2.13, S2.14, S2.15, S2.16 C3: S3.11, S3.12, S3.13, S3.14, S3.15, S3.16, S3.17, S3.18, S3.19 C4: S4.06, S4.07, S4.08, S4.09, S4.10, S4.11, S4.12, S4.13, S4.14, S4.15 C5-I: S6.01, S6.02, S6.03, S6.04 C5-M: S7.01, S7.02, S7.03, S7.04, S7.05, S7.06, S7.15, S7.16
Sherardized steel Zinc-electroplated steel	No specific pretreatment or sealing is necessary for small parts ²⁾	The same paint system as used for the larger parts of the constituent element.

1) See ISO 12944-4, clause 5.

2) Corrosion protection by means of sherardizing and zinc-electroplating is mainly used for small parts, e.g. screws, nuts, bolts.

Table A.9: Paint systems for corrosivity categories C2 to C5-I and C5-M
Substrate: Hot-dip-galvanized steel¹⁾

The paint systems given in the following table are only examples. Other paint systems having the same performance are possible. If these examples are used, it shall be ensured that the paint systems chosen comply with the indicated durability when execution of the paint work takes place as specified. See also 5.7.

Paint System No.	Priming coat(s)			Top coat(s) including intermediate coat(s)			Paint system		Expected durability ^{2) 6)} (see 5.5 and ISO 12944-1)																
	Binder ⁵⁾	Number of coats	NDFT ³⁾ μm	Binder ⁵⁾	Number of coats	NDFT ³⁾ μm	Number of coats	Total NDFT ³⁾ μm	C2			C3			C4			C5-I			C5-M				
									L	M	H	L	M	H	L	M	H	L	M	H	L	M	H		
S9.01	PVC	-	-	PVC	1	80	1	80																	
S9.02		1	40		1	80	2	120																	
S9.03		1	80		1	80	2	160																	
S9.04		1	80		2	160	3	240																	
S9.05	AY	-	-	AY	1	80	1	80																	
S9.06		1	40		1	80	2	120																	
S9.07		1	80		1	80	2	160																	
S9.08		1	80		2	160	3	240																	
S9.09	EP or PUR	-	-	EP or PUR ⁴⁾	1	80	1	80																	
S9.10		1	40		1	80	2	120																	
S9.11		1	80		1	80	2	160																	
S9.12		1	80		2	160	3	240																	
S9.13		1	80		2-3	240	3-4	320																	
Binders for priming coat(s)				Paints (liquid)			Binders for top coat(s)		Paints (liquid)																
				No. of components		Water-borne possible			No. of components		Water-borne possible														
				1-pack	2-pack		1-pack	2-pack																	
PVC = Polyvinyl chloride				x			PVC = Polyvinyl chloride	x		x															
AY = Acrylic				x		x	AY = Acrylic	x		x															
EP = Epoxy					x	x	EP = Epoxy			x			x												
PUR = Polyurethane					x		PUR = Polyurethane	x	x																

1) The mechanical or chemical surface preparation required is described in ISO 12944-4.
 2) The durability is in this case related to the paint system adhesion to the hot-dip-galvanized surface.
 3) NDFT = Nominal Dry Film Thickness. See 5.4 for further details.
 4) If colour and gloss retention is required, it is recommended that the last coat should be based on aliphatic PUR.
 5) For explanation of abbreviations, see foot of table.
 6) Light grey shading indicates that the paint systems concerned would not normally be used for these corrosivity categories. They are not listed in table A.2 and/or A.3.

Table A.8: Paint systems for immersion categories Im1, Im2, Im3

The paint systems given in the following table are only examples. Other paint systems having the same performance are possible. If these examples are used, it shall be ensured that the paint systems chosen comply with the indicated durability when execution of the paint work takes place as specified. See also 5.7.

Paint System No.	Surface preparation grade ¹⁾		Priming coat(s)				Top coat(s) including intermediate coat(s)			Paint system		Expected durability (see 5.5 and ISO 12944-1)		
	St 2	Sa 2½	Binder ⁶⁾	Type of primer ²⁾	Number of coats	NDFT ³⁾ µm	Binder ⁶⁾	Number of coats	NDFT ³⁾ µm	Number of coats	Total NDFT ³⁾ µm	Low	Medium	High
S8.01		x	EP, PUR	Zn (R)	1	40	EP, PUR	2-4	320	3-5	360			
S8.02		x			1	40	CTPUR ⁵⁾	4	500	5	540			
S8.03		x			1	40	CTE ⁵⁾	3	400	4	440			
S8.04		x	EP		1	80	EP, PUR	2	300	3	380			
S8.05		x			1	80	EP ⁴⁾	1	400	2	480			
S8.06		x	EP ⁴⁾	Misc.	1	800	—	—	—	1	800			
S8.07		x	CTE ⁵⁾		1	120	CTE ⁵⁾	2	240	3	360			
S8.08		x			1	120		3	380	4	500			
S8.09		x			1	500	—	—	—	1	500			
S8.10		x	CTE ^{4) 5)}		1	1000	—	—	—	1	1000			
S8.11		x	CTPUR ⁵⁾		1	200	CTPUR ⁵⁾	1	200	2	400			
Binders for priming coat(s)			Paints (liquid)			Binders for top coat(s)					Paints (liquid)			
			No. of components		Water-borne possible						No. of components		Water-borne possible	
			1-pack	2-pack							1-pack	2-pack		
EP = Epoxy				x		EP = Epoxy						x		
PUR = Polyurethane			x			PUR = Polyurethane					x	x		
CTE = Coal tar epoxy				x		CTE = Coal tar epoxy						x		
CTPUR = Coal tar polyurethane			x	x		CTPUR = Coal tar polyurethane					x	x		

- 1) For Sa 2½ rust grade A, B or C as defined in ISO 8501-1 is the reference grade.
- 2) Zn (R) = Zinc rich primer, see 5.2, Misc. = Miscellaneous types of anticorrosive pigments.
- 3) NDFT = Nominal Dry Film Thickness. See 5.4 for further details.
- 4) Solvent-free type.
- 5) Alternatives to coal tar are available.
- 6) For explanation of abbreviations, see foot of table.

Table A.5: Paint systems summarized for corrosivity categories C5-I and C5-M

The paint systems given in the following table are only examples. Other paint systems having the same performance are possible. If these examples are used, it shall be ensured that the paint systems chosen comply with the indicated durability when execution of the paint work takes place as specified. See also 5.7.

Paint System No.	Surface preparation grade ¹⁾		Priming coat(s)				Top coat(s) including intermediate coat(s)				Paint system		Expected durability ¹¹⁾ (see 5.5 and ISO 12944-1)						Corresponding paint system number in tables				
			C5-I		C5-M		A.6		A.7														
			St 2	Sa 2½	Binder ²⁾	Type of primer ³⁾	Number of coats	NDFT ⁴⁾ µm	Binder ²⁾	Number of coats			NDFT ⁴⁾ µm	Number of coats	Total NDFT ⁴⁾ µm	L	M	H	L	M	H	12)	13)
S5.01	x		CR	Misc.	1-2	80				2	120	3-4	200								S6.01	S7.01	
S5.02	x		EP, PUR ⁵⁾		2	120	AY, CR, PVC	1-2	80	3-4	200										S6.02		
S5.03	x				1	80		3	200	4	280										S6.07		
S5.04	x		ESI ⁶⁾	Zn (R)	1	80		4	240	5	320										S6.11		
S5.05	x				1	40	EP + CR ¹⁰⁾	2	200	3	240											S7.08	
S5.06	x		EP, PUR ⁵⁾		1	40		3-4	280	4-5	320											S7.09	
S5.07	x				1	40		2	120	3	200											S6.05	
S5.08	x		EP, PUR	Misc.	1	80		2	120	3	200											S7.02	
S5.09	x		EP, PUR ⁵⁾	Zn (R)	1	40		3	200	4	240											S6.06	S7.07
S5.10	x		ESI ⁶⁾		1	80	EP, PUR ⁷⁾	2-4	160	3-5	240											S6.09	S7.12
S5.11	x		EP, PUR	Misc.	1	80		3	200	4	280											S6.03	
S5.12	x		ESI ⁶⁾	Zn (R)	1	80		3	200	4	280											S6.10	
S5.13	x				1	80		2-4	240	3-5	320											S6.08	S7.14
S5.14	x				1	150		1	150	2	300												S7.03
S5.15	x		EP, PUR	Misc.	1-2	80		3-4	240	4-6	320											S6.04	S7.04
S5.16	x				1	250		1	250	2	500												S7.06
S5.17	x		ESI ⁶⁾	Zn (R)	1	80	EP+CTE ⁹⁾¹⁰⁾	2	200	3	280												S7.13
S5.18	x		CTV ⁹⁾	Al ⁸⁾	1	100	CTV ⁹⁾	2	200	3	300												S7.15
S5.19	x		EP, PUR	Misc.	1	400		-	-	1	400												S7.05
S5.20	x		EP, PUR ⁵⁾	Zn (R)	1	40	CTV ⁹⁾	3	360	4	400												S7.10
S5.21	x		CTE ⁹⁾	Misc.	1	100	CTE ⁹⁾	2	200	3	300												S7.16
S5.22	x		EP, PUR ⁵⁾	Zn (R)	1	40		3	360	4	400												S7.11

Binders for priming coat(s)			Paints (liquid)			Binders for top coat(s)			Paints (liquid)		
			No. of components		Water-borne possible				No. of components		Water-borne possible
			1-pack	2-pack					1-pack	2-pack	
CR =	Chlorinated rubber		x			AY =	Acrylic		x		x
EP =	Epoxy			x	x	CR =	Chlorinated rubber		x		
PUR =	Polyurethane		x			EP =	Epoxy			x	x
ESI =	Ethyl silicate		x	x		PUR =	Polyurethane		x	x	
CTV =	Coal tar vinyl		x			PVC =	Polyvinyl chloride		x		
CTE =	Coal tar epoxy			x		CTV =	Coal tar vinyl		x		
						CTE =	Coal tar epoxy			x	

- 1) For Sa 2½ rust grade A, B or C as defined in ISO 8501-1 is the reference grade.
- 2) For explanation of abbreviations, see foot of table.
- 3) Zn (R) = Zinc rich primer, see 5.2, Misc. = Miscellaneous types of anticorrosive pigment.
- 4) NDFT = Nominal Dry Film Thickness. See 5.4 for further details.
- 5) It is also possible to work with an NDFT of 80 µm provided that the EP or PUR zinc rich primer chosen is suitable for such an NDFT. In this case, the NDFT of the complete paint system can be adjusted by subsequent coats.
- 6) It is recommended that one of the intermediate coats is used as a tie coat.
- 7) If colour and gloss retention is required, it is recommended that the last coat should be based on aliphatic PUR.
- 8) Al = Aluminium pigmented primer.
- 9) Alternatives to coal tar are available.
- 10) The first of the abbreviations relates to the intermediate coat and the latter to the top coat.
- 11) L = low, M = medium, H = high.
- 12) Systems for C5-I can often be used for C5-M but with a reduced durability.
- 13) Systems for C5-M can often be used for C5-I but with an increased durability.