JINLANG CHEMICAL
METAL'S TRUSTED SHIELD

INDUSTRIAL & PROTECTIVE COATINGS

Product Selection & Coating System Guide



2026 EDITION

Carbon steel / Industrial equipment / Infrastructure

Quick Product Selection Guide

Find a complete coating system by corrosivity, or compare individual products by function.

Coating systems
C2–C5 atmospheric protection

03–06 →

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Corrosion & Durability Guide

Atmospheric corrosion protection of carbon steel: select the environment, design life and coating technology.



C2 Low

Low-pollution environments; dry indoor steelwork.



C3 Medium

Urban and light industrial atmospheres.



C4 High

Humid industry and moderate coastal salinity.



C5 Very high

Severe industry and high coastal salinity.

Durability classes

L Up to 7 years

M 7–15 years

H 15–25 years

VH Over 25 years

Minimum system build: coats / total NDFT (µm)

Class	Primer technology	L	M	H	VH
C2	Zinc-rich	a	—	1 / 60	2 / 160
	Other EP / PU / ESI	a	—	1 / 120	2 / 180
	Alkyd / acrylic	a	1 / 100	1 / 160	2 / 200
C3	Zinc-rich	—	1 / 60	2 / 160	2 / 200
	Other EP / PU / ESI	—	1 / 120	2 / 180	2 / 240
	Alkyd / acrylic	1 / 100	1 / 160	2 / 200	2 / 260
C4	Zinc-rich	1 / 60	2 / 160	2 / 200	3 / 260
	Other EP / PU / ESI	1 / 120	2 / 180	2 / 240	2 / 300
	Alkyd / acrylic	1 / 160	2 / 200	2 / 260	—
C5	Zinc-rich	2 / 160	2 / 200	3 / 260	3 / 320
	Other EP / PU / ESI	2 / 180	2 / 240	2 / 300	3 / 360
	Alkyd / acrylic	—	—	—	—

Reference: ISO 12944-5:2019, Table B.2 (abrasive-blasted steel; airless spray basis). Zinc-rich primer binders: EP, PU or ESI; subsequent coats: EP, PU or AY. Other EP/PU/ESI primers use the same subsequent coat families; alkyd/acrylic primers use AK/AY subsequent coats.

EP = epoxy; PU = polyurethane; ESI = ethyl silicate; AK = alkyd; AY = acrylic. a: where painting is required, choose a higher durability or corrosivity system. A dash indicates no reference build in that cell.

Durability is the expected time to first major maintenance. Durability classification applies to the complete coating system.

Data basis: typical design values; VOC calculated for ready-to-use coatings at the specified mix and thinner ratios. Theoretical coverage and consumption exclude application losses.

C2–C3 Coating Systems

Low to medium corrosivity | conventional and enhanced-barrier atmospheric systems.

C2 / Low corrosivity

C2-A Economical alkyd

Low-corrosivity steelwork; conventional alkyd finish.



AlkPri S11	1 × 40 µm
AlkShld S112	2 × 60 µm

160 µm
Total NDFT

3 coats
0.267 L/m²

C2-B Interior epoxy / PU

Interior carbon steel; polyurethane finish.



EpoPri D23	1 × 60 µm
AcUrShld D210	2 × 40 µm

140 µm
Total NDFT

3 coats
0.211 L/m²

C3 / Medium corrosivity

C3-A Economy epoxy / PU

Fast-drying epoxy foundation for atmospheric steel.



EpoPri D27E	1 × 60 µm
EpoMor D27E	1 × 70 µm
AcUrShld D212	2 × 40 µm

210 µm
Total NDFT

4 coats
0.314 L/m²

C3-B Enhanced barrier

Additional film build with MIO epoxy intermediate.



EpoPri D23	1 × 60 µm
EpoMor D25	2 × 80 µm
AcUrShld D212	2 × 40 µm

300 µm
Total NDFT

5 coats
0.478 L/m²

Surface preparation: Sa 2½ for blast-cleaned steel; use the specified surface profile and product recoat intervals.

Theoretical consumption: litres of unthinned paint per square metre.

C4 Coating Systems

High corrosivity | compare a conventional MIO barrier build and a reduced-coat high-build configuration.



C4-A MIO epoxy / PU

MIO barrier intermediate and aliphatic polyurethane.



EpoPri D23	1 × 60 µm
EpoMor D25	2 × 80 µm
AcUrShld D213	2 × 40 µm

300 µm
Total NDFT

5 coats
0.478 L/m²

C4-B High-build epoxy / PU

Three-coat build; check through-dry before recoating.



EpoPri D23	1 × 60 µm
EpoMor D24	1 × 200 µm
AcUrShld D215	1 × 80 µm

340 µm
Total NDFT

3 coats
0.461 L/m²

Special-purpose atmospheric configurations

Application	Coating build	NDFT
Maintenance & repair	EpoPri D22 1 × 60 µm EpoMor D24 1 × 200 µm AcUrShld D212 2 × 40 µm	340 µm
Glass flake barrier	EpoPri D24 2 × 150 µm AcUrShld D212 2 × 40 µm	380 µm

High-build EpoMor D24: allow at least 24 h at 25 °C and verify a firm, dry and clean film before recoating. Maintain coating, substrate and air at ≥10 °C during application and drying.

Surface preparation: Sa 2½ for new steel; maintenance systems may use D22 on sound, adherent surfaces. See page 09.

C5 Coating System

Very high corrosivity | zinc-rich epoxy, MIO epoxy and fluorocarbon for severe atmospheric exposure.



SYSTEM A — **Zinc-Rich Epoxy / Fluorocarbon**

FluShld D316 Fluorocarbon topcoat	2 × 40 µm
EpoMor D25 MIO epoxy intermediate	2 × 80 µm
EpoPri D28-80 Zinc-rich epoxy primer	1 × 80 µm
Carbon steel / Sa 2½	

320 µm
Total NDFT

5 coats
Application build

80%
Dry-film zinc by weight

Product	Total DFT	Theoretical consumption
EpoPri D28-80	80 µm	0.118 L/m²
EpoMor D25	160 µm	0.267 L/m²
FluShld D316	80 µm	0.133 L/m²
Total	320 µm	0.518 L/m²

Surface preparation: blast-clean to Sa 2½ with a 50–75 µm angular profile; remove salts and dust. Stripe-coat edges, welds and inaccessible areas.

Single-Component Primers

Economical and fast-drying foundations for industrial steel.

AlkPri S11

Economical alkyd primer

≤4 h
Touch dry

AcrPri S21

Fast-drying acrylic primer

≤1 h
Touch dry

Technical data	AlkPri S11	AcrPri S21
Chemistry	Alkyd	Acrylic
Components	1K	1K
Volume solids	60%	55%
DFT per coat (µm)	30–40	50–60
Theoretical coverage (m²/L)	15.0–20.0	9.2–11.0
Touch dry	≤4 h	≤1 h
Dry to handle	8 h	3 h
Recoat interval	16 h–7 days	4 h–7 days
Full cure	7 days	3 days
Substrate / surface prep.	Sa 2 / St 3	Sa 2 / St 3
Blast profile	25–50 µm	25–50 µm
Application temperature	10–30 °C	10–30 °C
Application method	Airless / brush / roller	Spray / brush / roller
Thinner / addition (vol.)	AlkThi 10 / 0–3%	AcrThi 10 / 0% added
Packaging	4 L / 20 L / 200 L	4 L / 20 L / 200 L
Shelf life	12 months	12 months

System selection: AlkPri S11 → AlkShld S112; AcrPri S21 → AcrShld S206. See C2 systems on page 04.

Application: Blast profile: 25–50 µm. S21 is applied as supplied.

Times at 25 °C. Colour: standard / RAL on request.



Typical application

Prepared structural steel and fabricated metalwork.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

General-Purpose Epoxy Primers

Compare fast-drying economy epoxy and general-purpose protection.

EpoPri D27E

Economy / fast-drying epoxy

6 h
Min. recoat

EpoPri D23

General-purpose epoxy

12 h
Min. recoat

Technical data	EpoPri D27E	EpoPri D23
Chemistry	Epoxy	Epoxy
Components	2K	2K
Volume solids	68%	68%
DFT per coat (µm)	50–80	50–80
Theoretical coverage (m²/L)	8.5–13.6	8.5–13.6
Touch dry	≤1 h	≤3 h
Dry to handle	4 h	12 h
Recoat interval	6–72 h	12 h–7 days
Mix ratio A:B (weight)	9:1	9:1
Pot life (max.)	4 h	4 h
Induction time	15 min	15 min
Full cure	7 days	7 days
Substrate / surface prep.	Sa 2 / St 3	Sa 2 / St 3
Blast profile	25–50 µm	25–50 µm
Application temperature	10–30 °C	5–35 °C
Application method	Spray / brush / roller	Airless spray / conventional spray / brush
Thinner / addition (vol.)	EpoThi 20 / 0–10%	EpoThi 10 / 0–10%
Packaging	A 18 kg + B 2 kg	A 18 kg + B 2 kg
Shelf life	12 months	12 months

System selection: D27E pairs with EpoMor D27E for the economy system. D23 pairs with EpoMor D25 or D24; see pages 04–05.
Working time: Use dedicated Part B. Blast profile: 25–50 µm. Sa 2½ for the reference systems.

Times at 25 °C. Induction is included in working time. Colour: standard / RAL on request.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

High-Performance Primers

Select by surface condition and protection mechanism.

EpoPri D22
Surface-tolerant epoxy
St 2–3[1]
Maintenance prep.

EpoPri D24
Glass flake epoxy
200 µm
Max. DFT / coat

EpoPri D28-80
Zinc-rich epoxy
80%
Dry-film zinc

Technical data	EpoPri D22	EpoPri D24	EpoPri D28-80
Chemistry	Epoxy	Glass-flake epoxy	Zinc-rich epoxy
Components	2K	2K	2K
Volume solids	68%	83%	68%
DFT per coat (µm)	50–80	100–200	60–80
Theoretical coverage (m²/L)	8.5–13.6	4.2–8.3	8.5–11.3
Touch dry	≤3 h	≤7 h	≤3 h
Dry to handle	12 h	24 h	8 h
Recoat interval	12 h–7 days	24 h–7 days	8 h–7 days
Mix ratio A:B (weight)	9:1	8:1	10:1
Pot life (max.)	4 h	45 min	6 h
Induction time	15 min	0 min	30 min
Full cure	7 days	7 days	7 days
Substrate / surface prep.	Sa 2½ / St 2–3[1]	Sa 2½	Sa 2½
Blast profile	25–50 µm	50–75 µm	50–75 µm
Application temperature	5–35 °C	5–35 °C	5–35 °C
Application method	Airless spray / conventional spray / brush	Mainly airless spray	Airless spray / conventional spray
Thinner / addition (vol.)	EpoThi 10 / 0–10%	EpoThi 10 / 0–5%	EpoThi 10 / 0–2%
Packaging	A 18 kg + B 2 kg	A 16 kg + B 2 kg	A 20 kg + B 2 kg
Shelf life	6 months	12 months	12 months

Surface condition: [1] D22: Sa 2½, 25–50 µm blast profile for new work; St 2 / St 3 for maintenance only after removing unsound material and verifying adhesion.

Specialist performance: D24 and D28-80: 50–75 µm blast profile. Keep D28-80 agitated during application.

Times at 25 °C. Induction is included in working time. Colour: standard / RAL on request; D28-80 is zinc grey.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

Epoxy Intermediate Coats

Compare barrier technology, film build and application schedule.

EpoMor D27E
Economy epoxy

80 µm
Max. DFT / coat

EpoMor D25
MIO epoxy barrier

100 µm
Max. DFT / coat

EpoMor D24
High-build epoxy

200 µm
Max. DFT / coat

Technical data	EpoMor D27E	EpoMor D25	EpoMor D24
Chemistry	Epoxy	Micaceous iron oxide (MIO) epoxy	Epoxy
Components	2K	2K	2K
Volume solids	68%	60%	80%
DFT per coat (µm)	60–80	60–100	150–200
Theoretical coverage (m²/L)	8.5–11.3	6.0–10.0	4.0–5.3
Touch dry	≤1 h	≤3 h	≤3 h
Dry to handle	4 h	12 h	Inspect after 24 h
Recoat interval	6–72 h	12 h–7 days	24 h–7 days[1]
Mix ratio A:B (weight)	9:1	9:1	10:1
Pot life (max.)	4 h	2 h	1 h
Induction time	15 min	15 min	15 min
Full cure	7 days	7 days	7 days
Application temperature	10–30 °C	5–35 °C	10–35 °C
Application method	Spray / brush / roller	Airless spray / conventional spray	Mainly airless spray
Thinner / addition (vol.)	EpoThi 20 / 0–10%	EpoThi 10 / 0–5%	EpoThi 10 / 0–4%
Packaging	A 18 kg + B 2 kg	A 18 kg + B 2 kg	A 20 kg + B 2 kg
Shelf life	12 months	12 months	12 months

System selection: D27E: economy / fast turn-around. D25: MIO barrier. D24: high-build, fewer coats; see pages 04–06.

Through-dry control: [1] D24: inspect after ≥24 h at 25 °C at 150–200 µm and confirm a firm, dry, clean film before recoating. Maintain ≥10 °C during drying.

Times at 25 °C. Induction is included in working time. Colour: standard / RAL on request.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

Direct-to-Metal Coatings

One coating technology for simplified primer-and-finish selection.

AlkDTM S107E
Alkyd DTM

1K
Alkyd

AcrDTM S202
Fast-drying acrylic DTM

≤30 min
Touch dry

AcrDTM D212L
Zinc phosphate-modified PU DTM

2K
PU DTM

Technical data	AlkDTM S107E	AcrDTM S202	AcrDTM D212L
Chemistry	Alkyd	Acrylic	Zinc phosphate-modified aliphatic polyurethane
Components	1K	1K	2K
Volume solids	60%	55%	65%
DFT per coat (µm)	50–60	40–50	60–80
Theoretical coverage (m²/L)	10.0–12.0	11.0–13.8	8.1–10.8
Gloss at 60°	5–20 GU	5–20 GU	≥80 GU
Touch dry	≤4 h	≤30 min	1 h
Dry to handle	12 h	2 h	9 h
Recoat interval	24 h–7 days	4 h–7 days	8–72 h
Mix ratio A:B (weight)	—	—	7:1
Pot life (max.)	—	—	2 h
Induction time	—	—	0 min
Full cure	7 days	3 days	7 days
Substrate / surface prep.	Sa 2½	Sa 2½	Sa 2½
Blast profile	25–50 µm	25–50 µm	25–50 µm
Application temperature	10–30 °C	10–30 °C	5–35 °C
Application method	Airless / brush / roller	Spray / brush / roller	Mainly spray
Thinner / addition (vol.)	AlkThi 10 / 0% added	AcrThi 10 / 0% added	UreThi 10 / 0–10%
Packaging	4 L / 20 L / 200 L	4 L / 20 L / 200 L	A 14 kg + B 2 kg
Shelf life	12 months	12 months	12 months

System selection: DTM coatings are applied to prepared carbon steel (25–50 µm blast profile). S107E and S202 may also be paired with their compatible primers when required.

Application: S107E and S202 are applied as supplied. Standalone DTM builds are selected by exposure and total DFT.

Times at 25 °C (PU values at 50% RH). Induction is included in working time. Colour: standard / RAL on request.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

Conventional Topcoats

Compare alkyd and acrylic finishes for general industrial coating systems.

AlkShld S112

Alkyd topcoat

≥80 GU
Gloss at 60°

AcrShld S206

Fast-drying acrylic topcoat

≤30 min
Touch dry

Technical data	AlkShld S112	AcrShld S206
Chemistry	Modified alkyd	Acrylic
Components	1K	1K
Volume solids	60%	55%
DFT per coat (µm)	50–60	30–50
Theoretical coverage (m²/L)	10.0–12.0	11.0–18.3
Gloss at 60°	≥80 GU	≥85 GU
Touch dry	≤4 h	≤30 min
Dry to handle	12 h	2 h
Recoat interval	24 h–7 days	4 h–7 days
Full cure	7 days	3 days
Application temperature	10–30 °C	10–30 °C
Application method	Airless / brush / roller	Spray / brush / roller
Thinner / addition (vol.)	AlkThi 10 / 0% added	AcrThi 10 / 0% added
Packaging	4 L / 20 L / 200 L	4 L / 20 L / 200 L
Shelf life	12 months	12 months

Compatible primers: AlkShld S112 → AlkPri S11; AcrShld S206 → AcrPri S21. Apply over clean, dry, undamaged compatible primer.

Colour & application: Apply both products as supplied.

Times at 25 °C. Colour: standard / RAL on request.



Typical application

Compatible coating systems on industrial metalwork.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

Polyurethane Topcoats

Gloss finishes for compatible industrial anticorrosive systems.

AcUrShld D210
Interior acrylic PU

Interior
Service

AcUrShld D212
Aliphatic acrylic PU

4:1
Mix ratio

AcUrShld D213
Aliphatic acrylic PU

5:1
Mix ratio

Technical data	AcUrShld D210	AcUrShld D212	AcUrShld D213
Chemistry	Acrylic PU	Aliphatic acrylic PU	Aliphatic acrylic PU
Components	2K	2K	2K
Volume solids	65%	65%	65%
DFT per coat (µm)	30–50	30–50	30–50
Theoretical coverage (m²/L)	13.0–21.7	13.0–21.7	13.0–21.7
Gloss at 60°	≥80 GU	≥80 GU	≥80 GU
Touch dry	1 h	1 h	1 h
Dry to handle	9 h	9 h	9 h
Recoat interval	8–72 h	8–72 h	8–72 h
Mix ratio A:B (weight)	4:1	4:1	5:1
Pot life (max.)	2 h	2 h	2 h
Induction time	0 min	0 min	0 min
Full cure	7 days	7 days	7 days
Application temperature	5–35 °C	5–35 °C	5–35 °C
Application method	Mainly spray	Mainly spray	Mainly spray
Thinner / addition (vol.)	UreThi 10 / 0–10%	UreThi 10 / 0–10%	UreThi 10 / 0–10%
Packaging	A 16 kg + B 4 kg	A 16 kg + B 4 kg	A 20 kg + B 4 kg
Shelf life	12 months	12 months	12 months

System selection: D210 is specified for interior steelwork; D212 and D213 are aliphatic acrylic PU finishes for atmospheric systems.

Coating compatibility: Use the matched Part B; apply over a compatible, clean and dry primer or intermediate coat. See pages 04–05.

Times at 25 °C (PU values at 50% RH). Induction is included in working time. Colour: standard / RAL on request.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

High-Build & Fluorocarbon Topcoats

Select higher film build or fluorocarbon finish technology.

AcUrShld D215
High-build acrylic PU

100 µm
Max. DFT / coat

FluShld D316
Fluorocarbon topcoat

10–30 GU
Typical gloss

Technical data	AcUrShld D215	FluShld D316
Chemistry	Acrylic PU	Two-component ambient-curing fluoropolymer coating; resin identity follows the product-specific resin declaration.
Components	2K	2K
Volume solids	65%	60%
DFT per coat (µm)	70–100	25–40
Theoretical coverage (m²/L)	6.5–9.3	15.0–24.0
Gloss at 60°	≥80 GU	Typical 10–30 GU
Touch dry	1 h	≤2 h
Dry to handle	9 h	24 h
Recoat interval	8–72 h	24 h–7 days
Mix ratio A:B (weight)	4:1	10:1
Pot life (max.)	2 h	1 h
Induction time	0 min	0 min
Full cure	7 days	7 days
Application temperature	5–35 °C	5–35 °C
Application method	Airless / conventional spray	Pressure-pot spray / brush / short-nap roller
Thinner / addition (vol.)	UreThi 10 / 0–10%	FluThi 10 / 5% max.
Packaging	A 16 kg + B 4 kg	A 20 kg + B 2 kg
Shelf life	12 months	12 months

System selection: D215: high-build 340 µm system (page 05). D316: zinc-rich / MIO / fluorocarbon 320 µm system (page 06).
Application: Use D316 within 1 h; add specified thinner within 30 min.

Times at 25 °C (PU values at 50% RH). Induction is included in working time. Colour: standard / RAL on request.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

Marking Coatings

Acrylic coatings for prepared concrete and asphalt area markings.

AcrMak S702

Matt acrylic marking paint

≤15 min
Touch dry

AcrMak S704

Acrylic marking paint

≤15 min
Touch dry

Technical data	AcrMak S702	AcrMak S704
Chemistry	Acrylic	Acrylic
Components	1K	1K
Volume solids	50%	50%
DFT per coat (µm)	200–300	200–300
Theoretical coverage (m²/L)	1.7–2.5	1.7–2.5
Gloss at 60°	5–20 GU	5–20 GU
Touch dry	≤15 min	≤15 min
Dry to handle	1 h	1 h
Recoat interval	1–24 h	1–24 h
No-pick-up time	≤30 min	≤30 min
Traffic opening	≥60 min[1]	≥60 min[1]
Full cure	24 h	24 h
Substrate / surface prep.	Clean, dry concrete / asphalt	Clean, dry concrete / asphalt
Application temperature	10–30 °C	10–30 °C
Application method	Airless / approved roller	Airless / approved roller
Thinner / addition (vol.)	AcrThi 10 / 0–2%	AcrThi 10 / 0–2%
Packaging	4 L / 20 L / 200 L	4 L / 20 L / 200 L
Shelf life	12 months	12 months

Surface preparation: Use sound, clean, dry concrete or asphalt. Remove laitance, oils and loose material; verify adhesion on new asphalt or sealed concrete.

Traffic opening: [1] Open to traffic when the film is secure and free of tyre pick-up; allow longer in cool or humid conditions. Optional wet-film glass beads: 0.30 kg/m².

Times at 25 °C. Colour: standard / RAL on request.

VOC: < 420 g/L

Technical data & SDS: jinlangcoating.com

JINLANG CHEMICAL
METAL'S TRUSTED SHIELD

About Jinlang Chemical

Established in 2004, Jinlang Chemical develops and manufactures industrial and protective coatings for structural steel, industrial equipment and infrastructure. We support industrial customers and distribution partners with coating systems, technical documentation and scalable production.



2004
Established

20+
Years of experience

200,000
Tonnes annual capacity

Certified Management Systems

ISO 9001
Quality management

ISO 14001
Environmental management

ISO 45001
Occupational health & safety management

Contact Us

Foshan, Guangdong, China

info@jinlangcoating.com

www.jinlangcoating.com

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