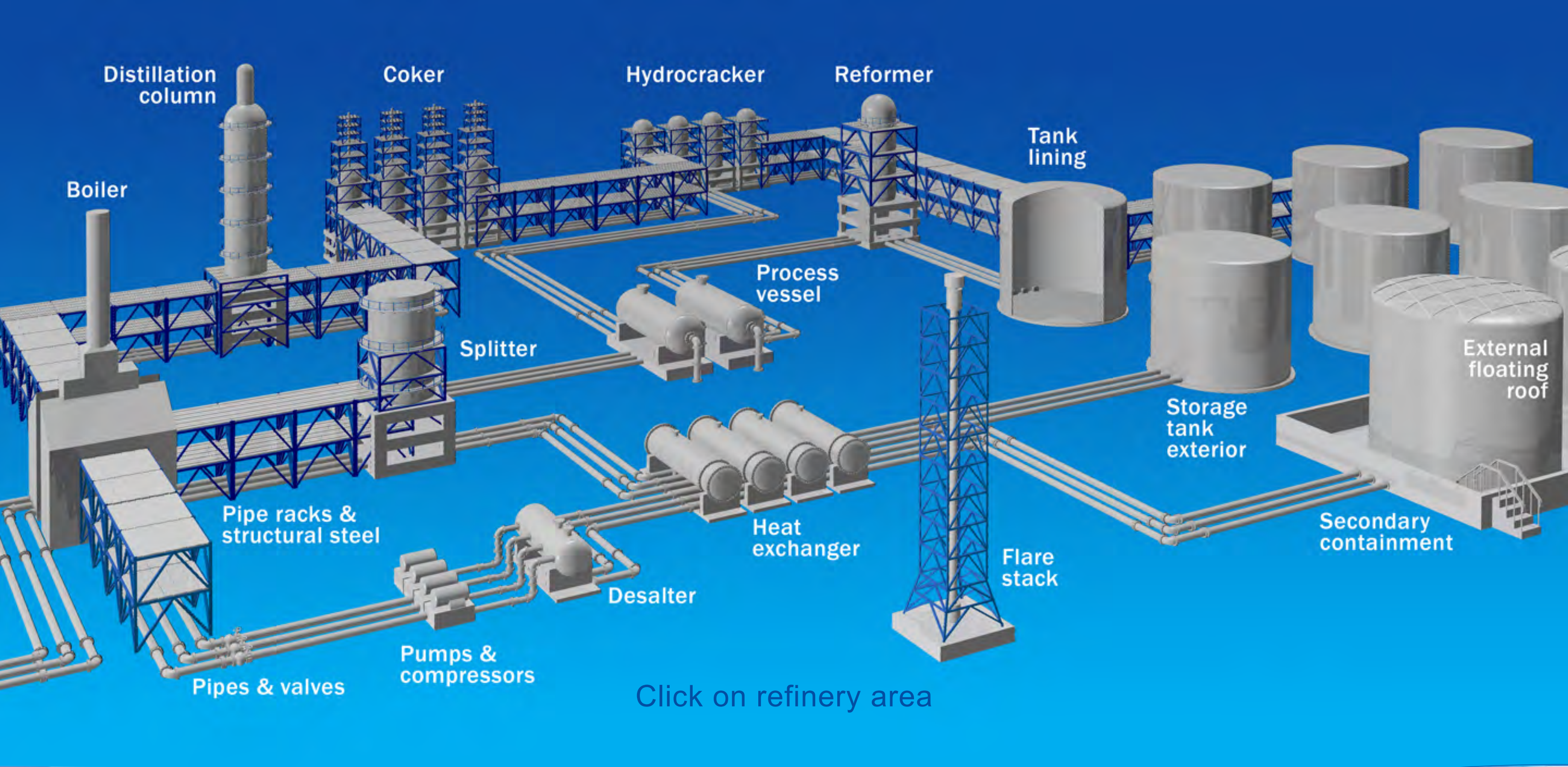




Refinery maintenance systems guide

Trusted coating solutions





Technical helpdesk

Flare stack

Carbon steel, uninsulated

250°F (121°C) - 800°F (426°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 6/Sa 2 Commercial Blast (spot repairs)

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

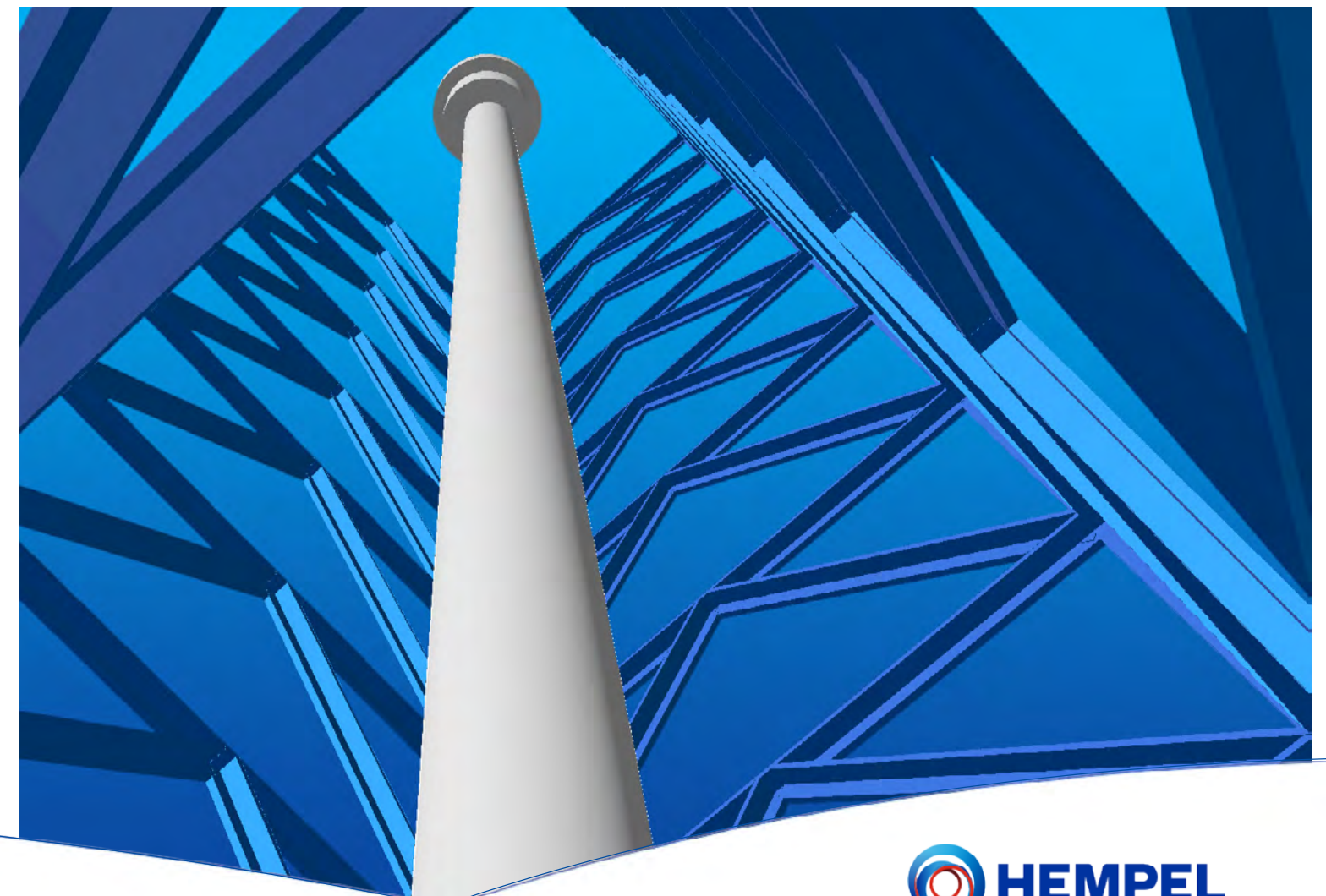
-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)



Desalter

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

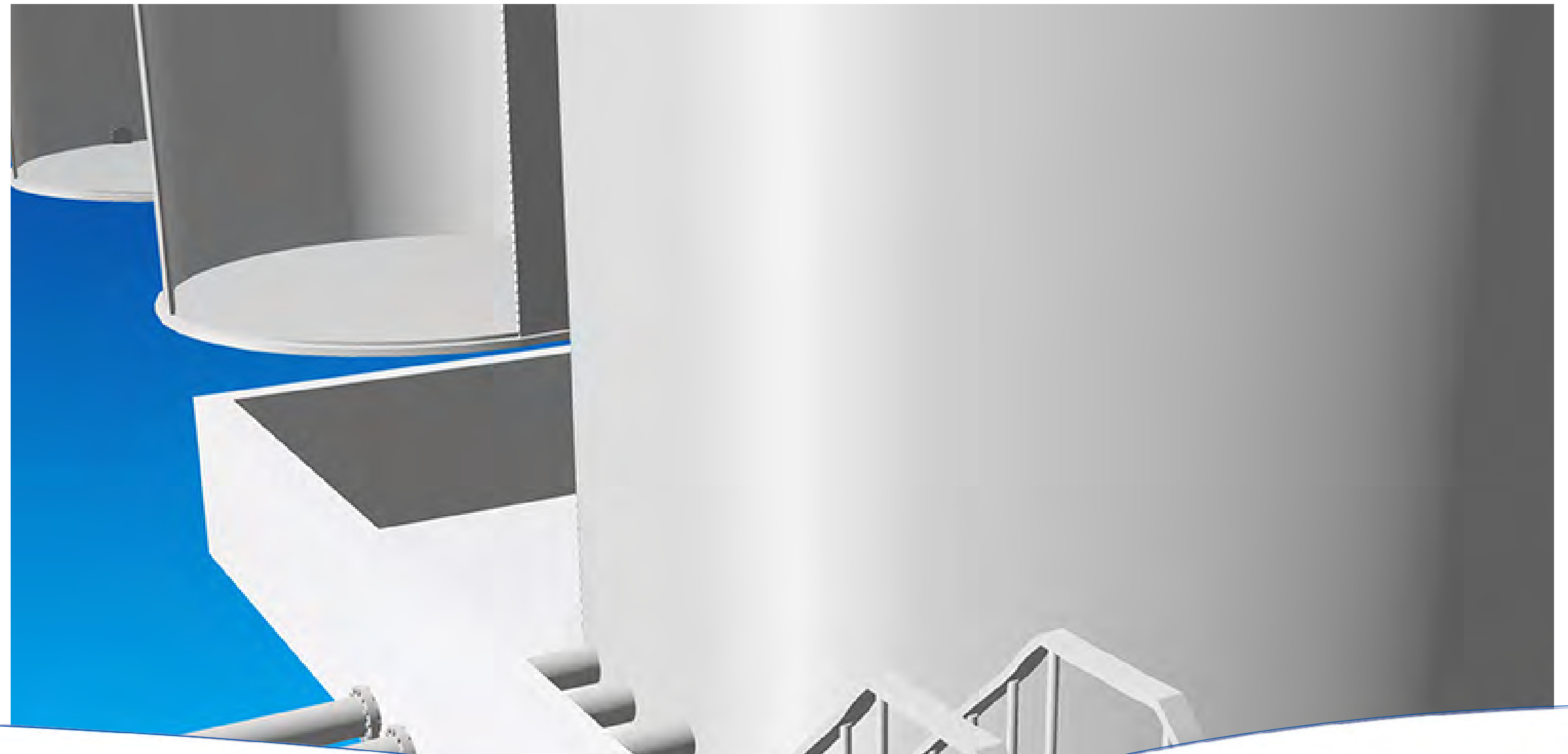
SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

Tank lining & secondary containment

Lining selection for internal tanks and secondary containment is dependent of various factors such as chemical exposure, temperature, pressure, etc.

Please contact your Hempel Technical Department for recommendations by clicking on [Technical helpdesk](#).



Distillation column & splitter

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)



Boiler

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

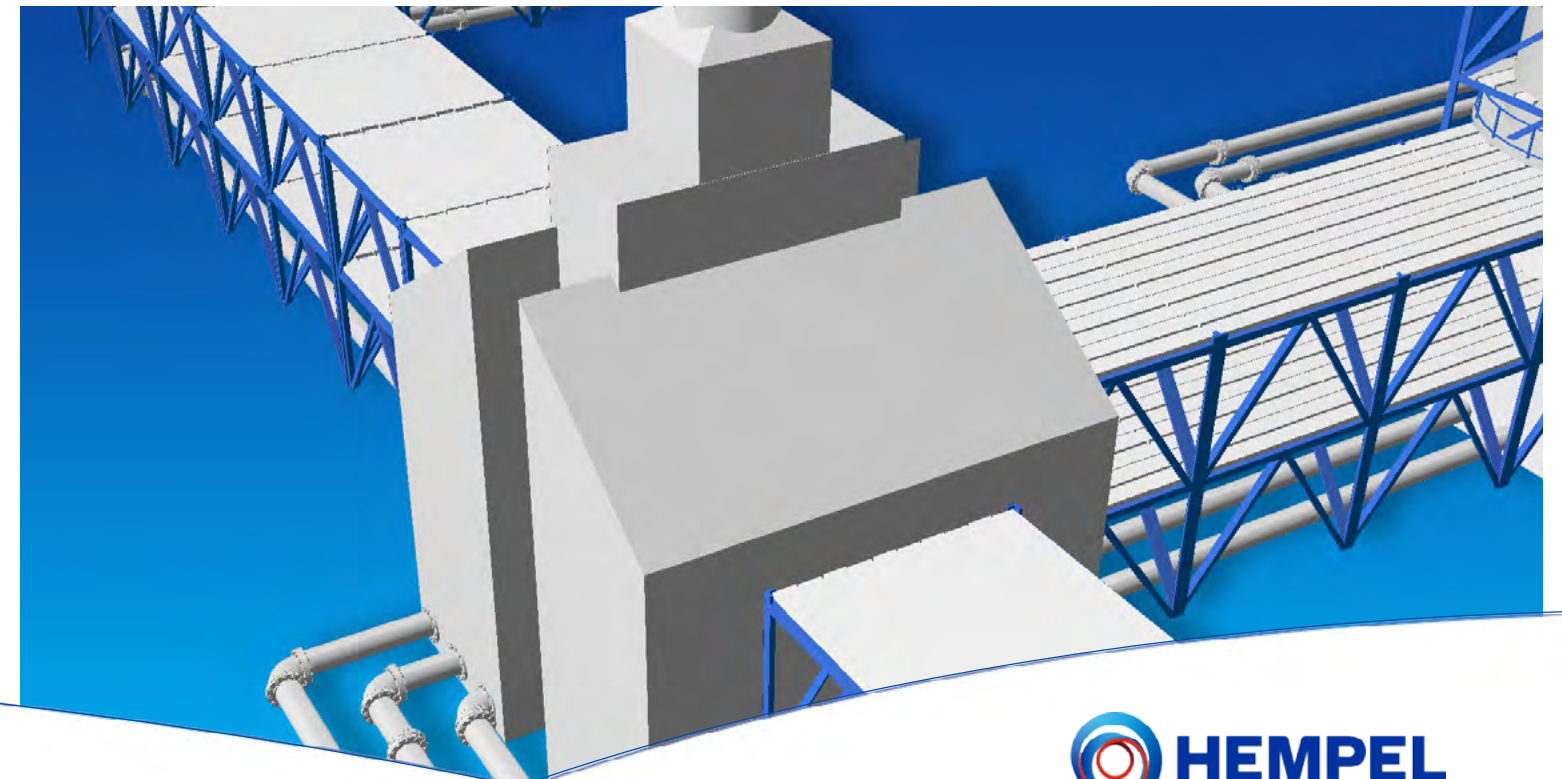
-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)



Pumps & compressors

Carbon steel, uninsulated

Overcoating OEM suppliers standard paint system.

Ambient - 250°F (121°C)

Surface preparation: Clean in accordance to SSPC-SP 1 Solvent Clean.
Sand with 80 Grit Sandpaper.

(*Note: Test patch may be required on OEM suppliers standard paint system)

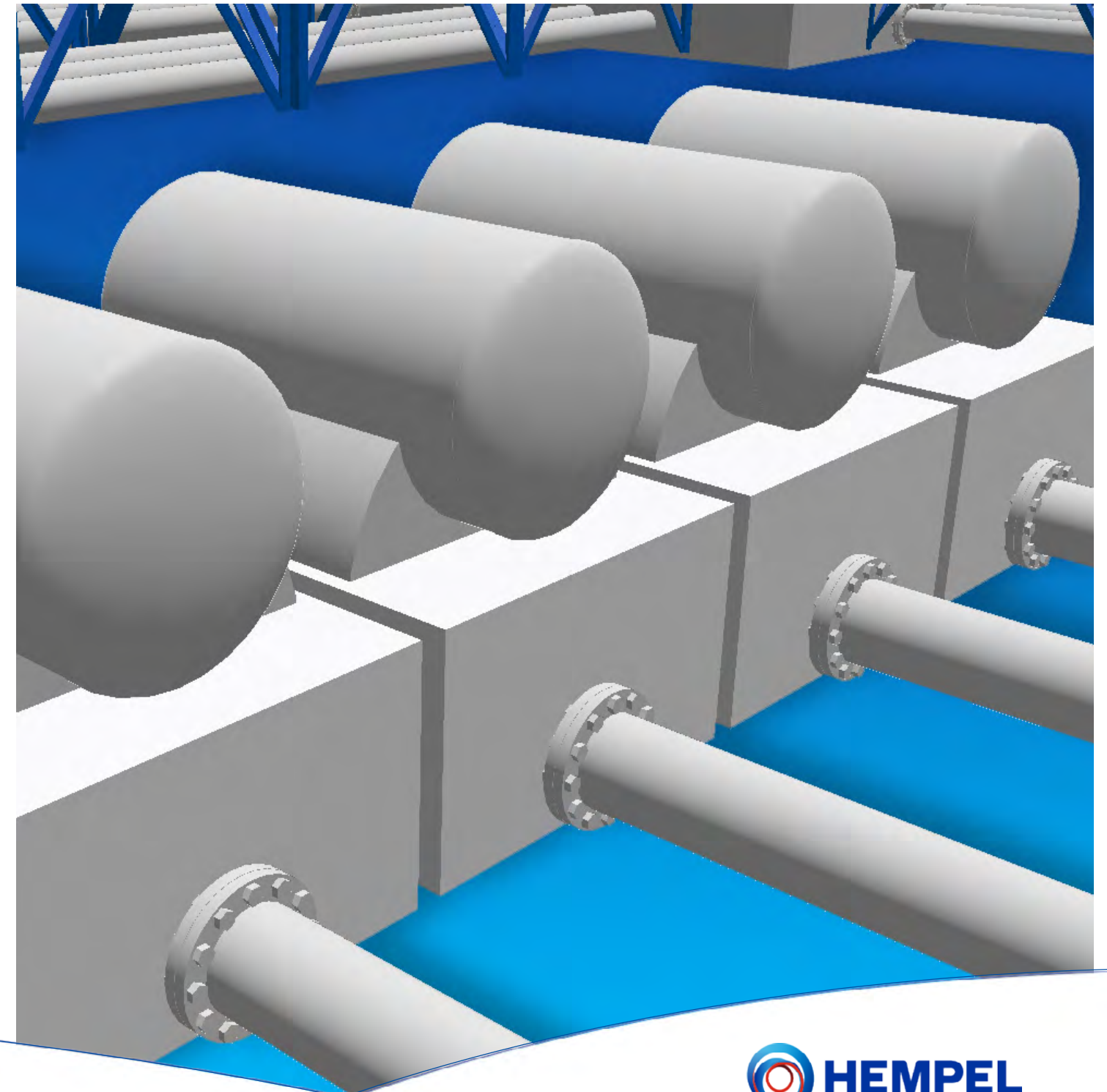
Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)



Process vessel

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

Heat exchanger

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

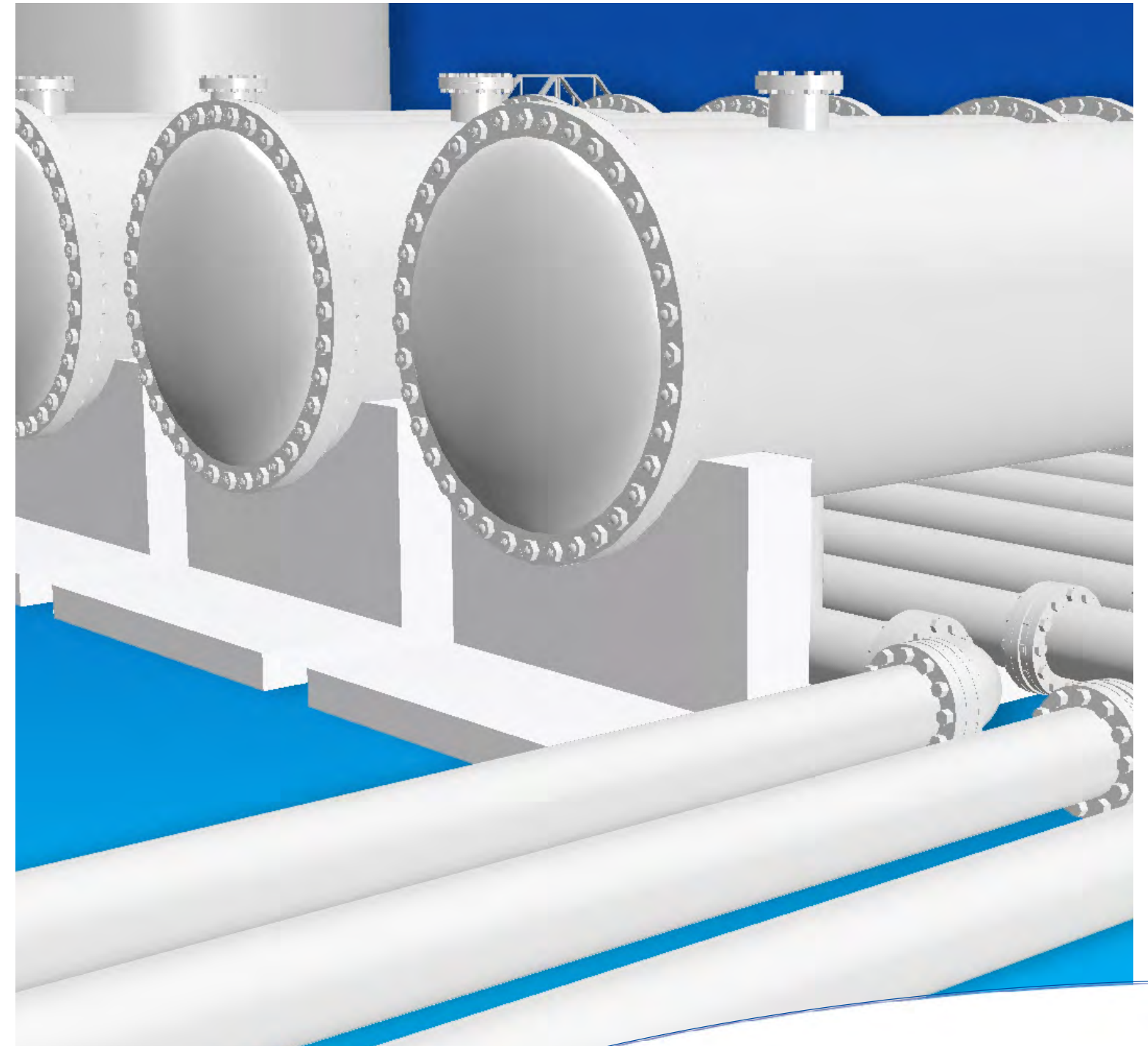
Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)



Storage tank exterior

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)



Pipes & valves

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

Coker

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

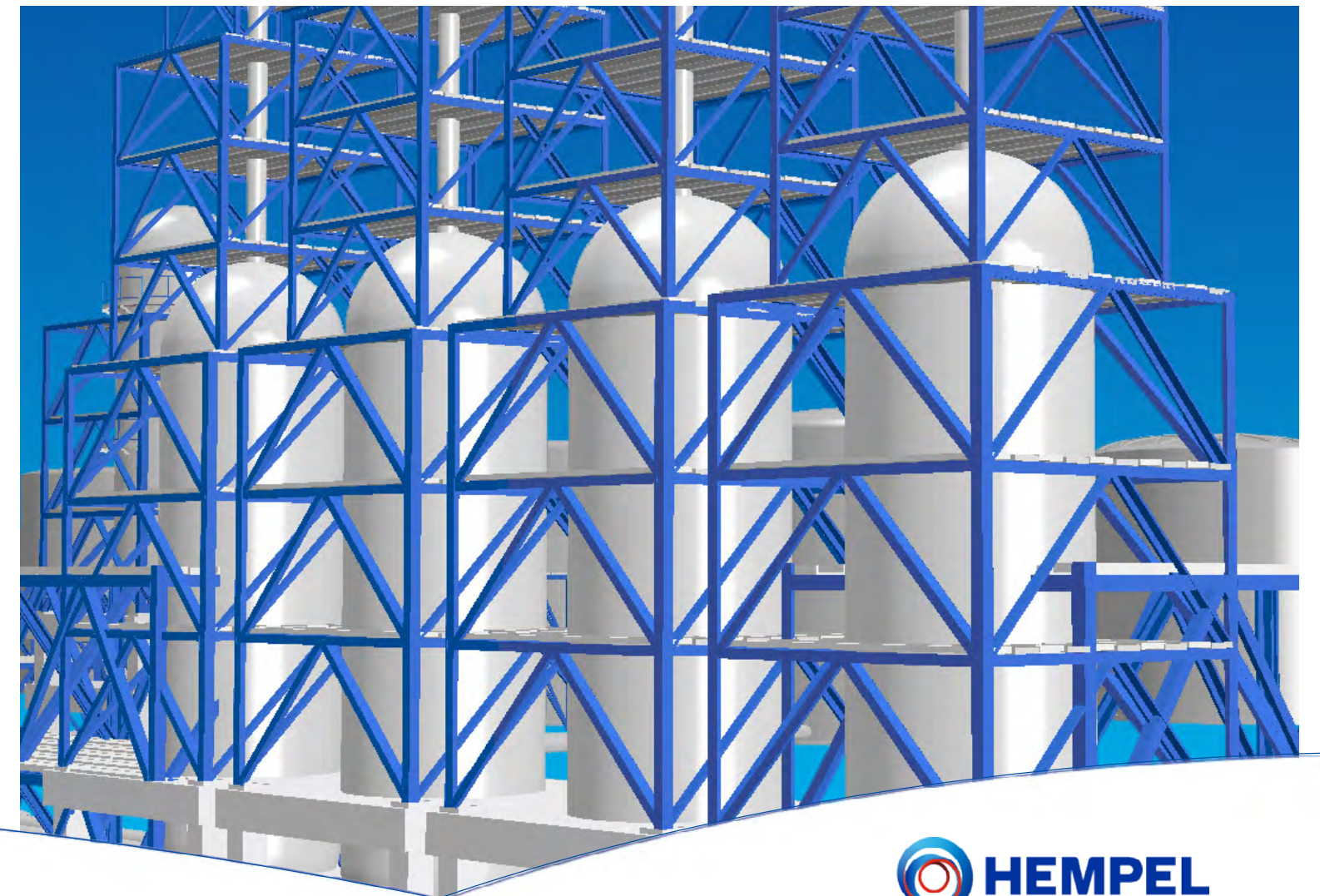
-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)



Hydrocracker

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

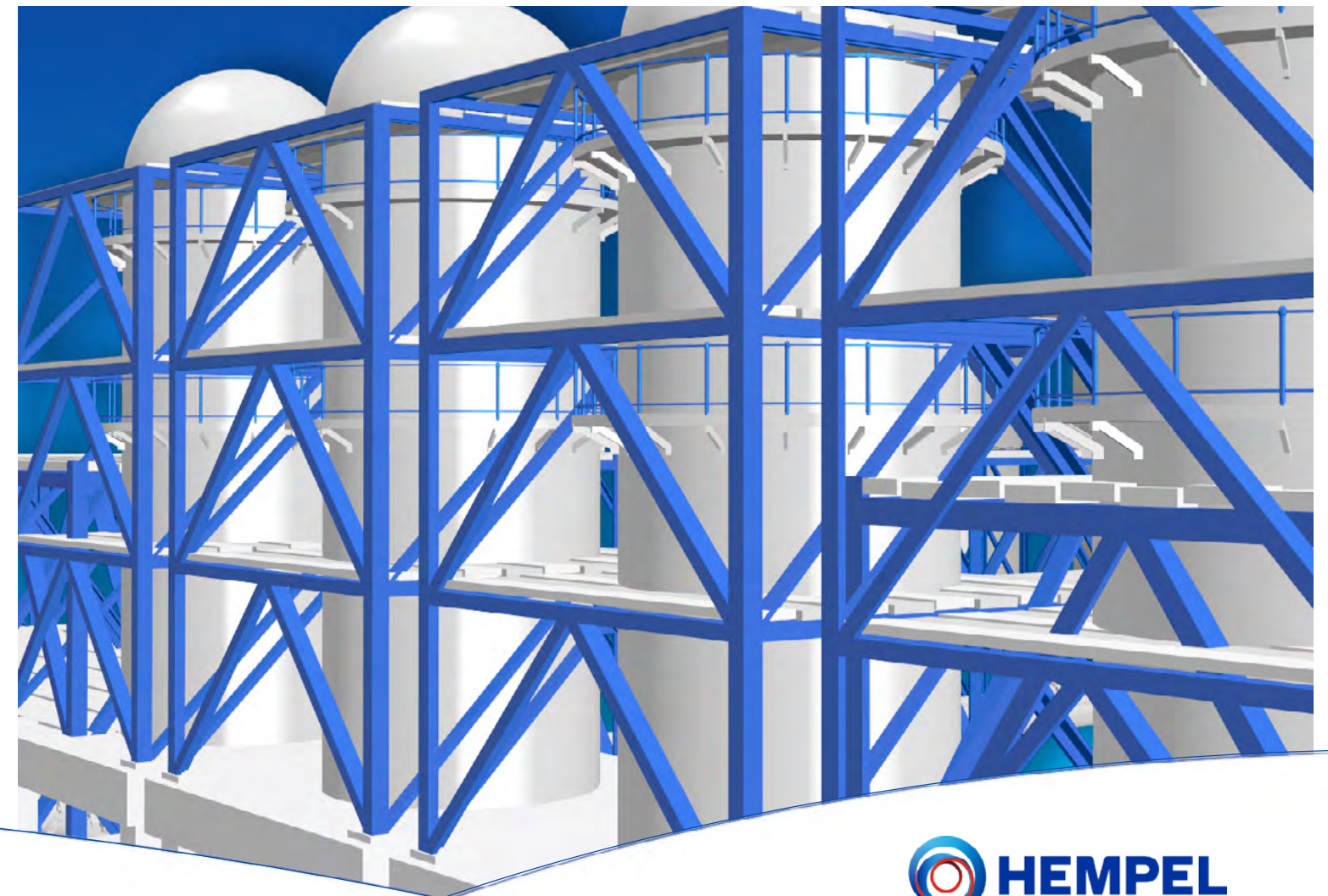
-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)



Reformer

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated or uninsulated

Ambient - 400°F (204°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Carbon or stainless steel, insulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Stainless steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals

Carbon steel, uninsulated

-321°F (-196°C) - 1,200°F (649°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast (minimum)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

Pipe racks & structural steel

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)

Aged galvanized steel

Ambient - 250°F (121°C)

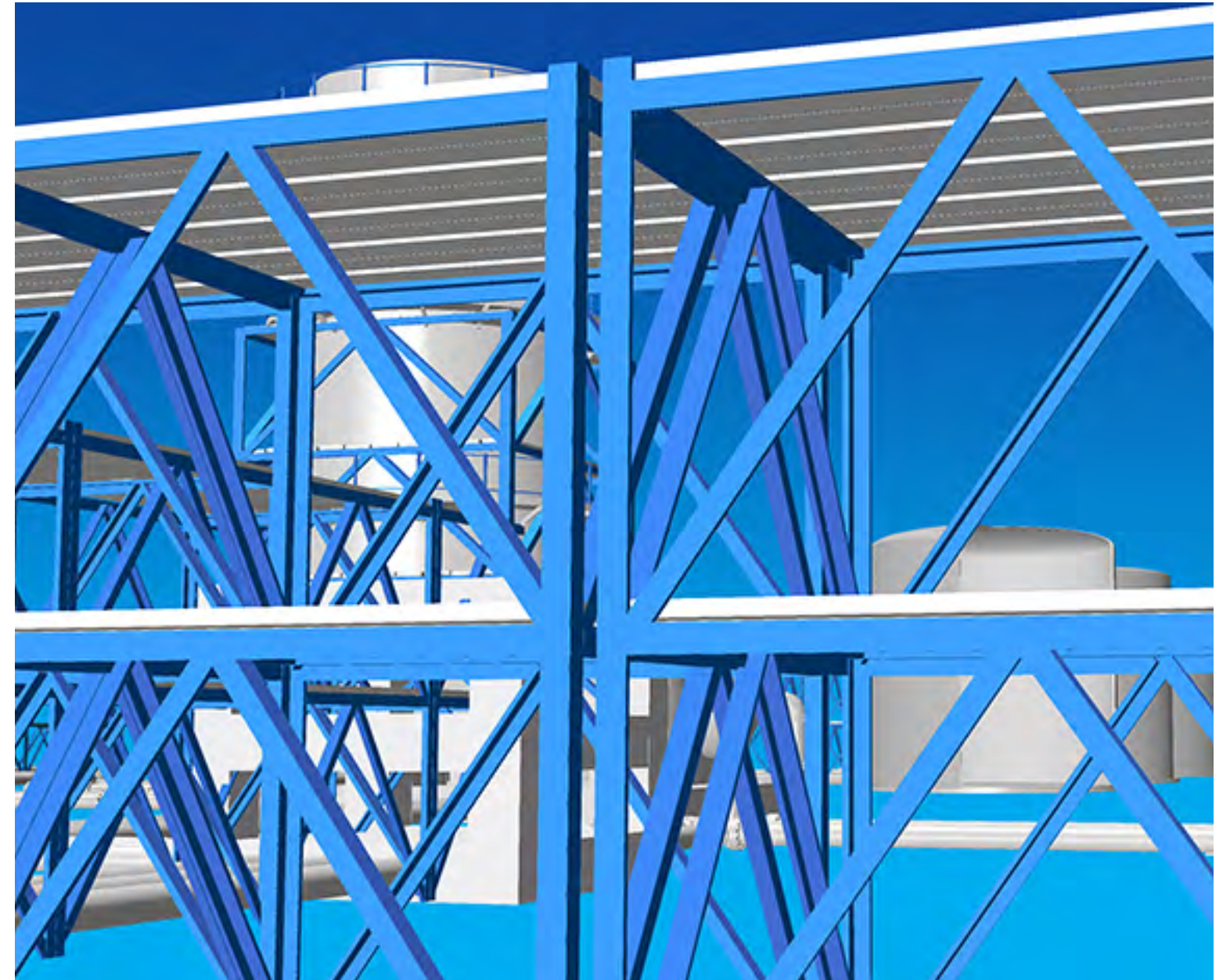
Surface preparation:

Power wash entire surface in accordance to SSPC-SP 12 WJ-4.

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)



External floating roof

Carbon steel, uninsulated

Ambient - 250°F (121°C)

Surface preparation:

SSPC-SP 10/Sa 2.5 Near White Metal Blast

SSPC-SP 11 Power Tool Cleaning to Bare Metal (minimum)

Carbon or stainless steel, insulated or uninsulated

Ambient - 250°F (121°C)

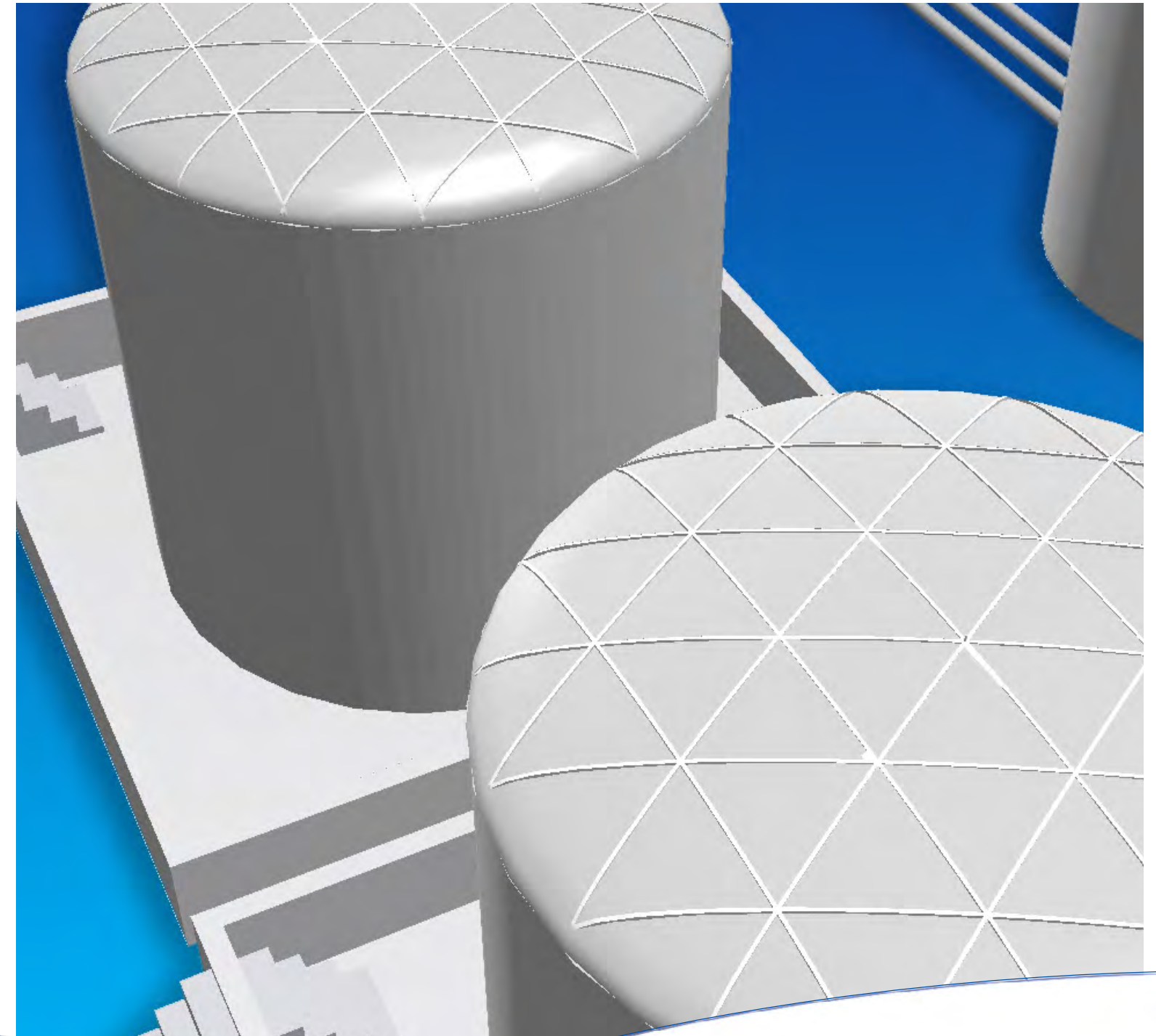
Surface preparation:

SSPC-SP 6/Sa 2 Commercial Blast

SSPC-SP 2/St 2 or St 3 Hand Tool Cleaning (spot repairs)

SSPC-SP 3/St 2 or St 3 Power Tool Cleaning (spot repairs)

SSPC-SP 16 Brush-off Blast Cleaning of Non-ferrous Metals (stainless)



Carbon steel, uninsulated	Ambient - 250°F (121°C)
Product	DFT
Hempadur Avantguard 750	2-4 mils / 50-100 microns
Hempadur Mastic 45880	4-8 mils / 100-200 microns
Hempathane HS 55610	2-3 mils / 50-75 microns
Total DFT	8-15 mils / 200-375 microns

Carbon or stainless steel, insulated or uninsulated	Ambient - 250°F (121°C)
Product	DFT
Hempadur Mastic 45880	4-8 mils / 100-200 microns
Hempadur Mastic 45880	4-8 mils / 100-200 microns
Hempathane HS 55610	2-3 mils / 50-75 microns
Total DFT	10-19 mils / 250-475 microns

Carbon steel, uninsulated	250°F (121°C) - 800°F (426°C)
Product	DFT
Hempel's Galvosil 15680	2-3 mils / 50-75 microns
Hempel's Silicone Aluminum 56913	1-2 mils / 25-50 microns
Total DFT	3-5 mils / 75-125 microns

Carbon or stainless steel, insulated or uninsulated	Ambient - 400°F (204°C)
Product	DFT
Hempadur 85671	4-8 mils / 100-200 microns
Hempadur 85671	4-8 mils / 100-200 microns
Total DFT	8-16 mils / 200-400 microns

Carbon or stainless steel, insulated	-321°F (-196°C) - 1,200°F (649°C)
Product	DFT
Versiline CUI 56990	5-6 mils / 125-150 microns
Versiline CUI 56990	5-6 mils / 125-150 microns
Total DFT	10-12 mils / 250-300 microns

Carbon steel, uninsulated	Ambient - 250°F (121°C)
Product	DFT
Vendor supplied coating*	n/a
Hempadur Mastic 45880	4-8 mils / 100-200 microns
Hempathane HS 55610	2-3 mils / 50-75 microns
Total DFT	6-11 mils / 150-275 microns

Carbon steel, uninsulated	Ambient - 250°F (121°C)
Product	DFT
Hempadur Avantguard 750	2-4 mils / 50-100 microns
Hempadur Fast Dry 17410	3-5 mils / 75-125 microns
Hempathane HS 55610	2-3 mils / 50-75 microns
Total DFT	7-12 mils / 175-300 microns

Aged galvanized steel	Ambient - 250°F (121°C)
Product	DFT
Hempadur Mastic 45880	4-8 mils / 100-200 microns
Hempadur Mastic 45880	4-8 mils / 100-200 microns
Hempathane HS 55610	2-3 mils / 50-75 microns
Total DFT	10-19 mils / 250-475 microns

Stainless steel, uninsulated	-321°F (-196°C) - 1,200°F (649°C)
Product	DFT
Versiline CUI 56990	5-6 mils / 125-150 microns
Versiline CUI 56990	5-6 mils / 125-150 microns
Total DFT	10-12 mils / 250-300 microns

Carbon steel, uninsulated	-321°F (-196°C) - 1,200°F (649°C)
Product	DFT
Versiline CUI 56990	7-8 mils /175-200 microns
Versiline CUI 56990	7-8 mils /175-200 microns
Total DFT	14-16 mils / 350-400 microns