

Company Presentation

50 YEARS
1970 - 2020



CITAL S.R.L.

Where we are

- With a **workshop** of 4.200 sqm, on a total area of 10.000 sqm located in the *North of Italy*, we totally manufacture the equipment that are dimensionally transportable, **or** we prepare and preassemble the sections and accessories of tanks to be assembled on **site anywhere in the world**.



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About us

- 1970 The Company is founded in the name of Armando Lenardi
- 1984 The new company, CITAL Srl, is established, and transfers to the new headquarters expanding both offices and workshop space
- 1990 CITAL crosses the Alpes and begins it's international experience in Europe.
- 2000 CITAL becomes a fully global company with important clients and plants in all 5 continents.
- 2010 CITAL business scope of work becomes enlarged and integrated



Engineering milestones

2004



First equipment in Super austenitic Stainless Steel and Nickel alloy, entirely fabricated in our workshop

2005



Inauguration of the first plant designed by CITAL for the automatic erection of tanks

2006



First company to automatically weld Lean Duplex on site in Europe thanks to CITAL's innovative technology

2015



CITAL completes the erection of two twin Duplex tanks of more than 300 tons each thanks to its technology

2020



CITAL manufactures two SB 265 Titanium Gr2 reactors for the pharmaceutical industry

Commercial milestones

2010



CITAL qualifies and is selected by BP for a big project in the UK

2011



CITAL is gets selected as one of the main contractors for the construction of the first 2nd generation bioethanol plant in Italy

2013



Chevron approves CITAL hybrid welding process and awards a 10 Million Euro contract for a brown field project in Singapore

2015



Acquisition of 30 Million USD contract for a US project in Texas

2016



CITAL delivers its first workshop fabricated equipment to Australia

2020



New tank farm consisting of 20 storage tanks for a chemical plant in Strasbourg in France

Know how

We make

- *Pressure Vessels*
- *Filters*
- *Skids*
- *Columns*
- *Heat Exchangers*
- *Reactors*
- *Workshop made equipment in stainless steel, duplex and exotic materials*

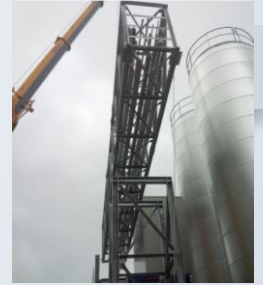


With construction on site of:

- *Storage and Process Tanks*
- *Turnkey projects*

In the following sectors

- *Oil & Gas*
- *Chemical*
- *Food & Drink*
- *Pharmaceutical*
- *Distilleries*
- *Energy*



Certifications

CITAL has the most important international certifications

- AD-2000 HP 0
- ASME U Stamp
- EN-1090-1 : +A1
- ISO9001 : 2015
- ISO 3843-2 : 2005
- National Board



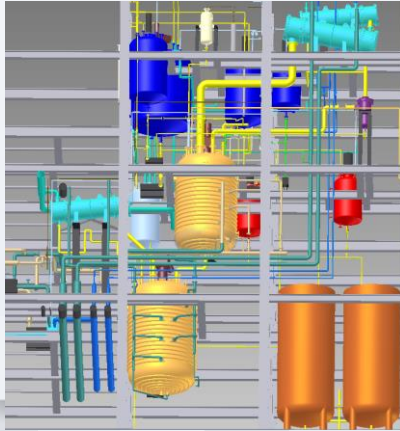
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Design Overview

CUTTING-EDGE DESIGN TECHNOLOGIES

- *Engineering*
- *3D Modelling*
- *Laser Scan 3D*
- *Fabrication*
- *Test*
- *Installation*
- *Supervision*
- *Turnkey*



STANDARDS & CODES

Pressurized Equipment:

- **ASME VIII - Div. 1 (U Designator)**
- **EN13445**
- **AD2000 Merkblatt**

Non-Pressurized:

- **API620**
- **API650**
- **EN 14015**

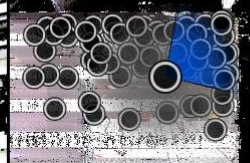
Metal Structures :

- **EN 1090-1**

Welding:

- **ISO 3834-2**

Notifying bodies: **RINA - TUV SUD - SGS**



30 - m 10 - m 10 - m



Welding stations- WORKSHOP

- **GTAW** (Gas Tungsten Arc Welding)
- **SMAW** (Shielded Metal Arc Welding)
- **PAW** (Plasma Arc Welding)
- **SAW** (Submerged Arc Welding)
- **GMAW** (Gas metal Arc Welding)
- **FCAW** (Flux-cored Arc Welding)
- **ORBITAL**



- Certified welding procedures: 170
- Welder and operator performance active qualifications: about 250

Rolling/bending- WORKSHOP

Equipment

- Size: up to 6 meters
- Weight: up to 200t
- Length: up to 50 meters



Plate rolls

- Diam. max: 6 m (limit for transport)
- Length max: 3 m (each course)
- Thickness max: 100 mm (Pre-bending)
- Materials: CS, SS, Ni, Duplex, Super duplex, others



Equipment - SITE

4 automatic tank erection plants from small to big tank sizes (up to 300 tons) including:

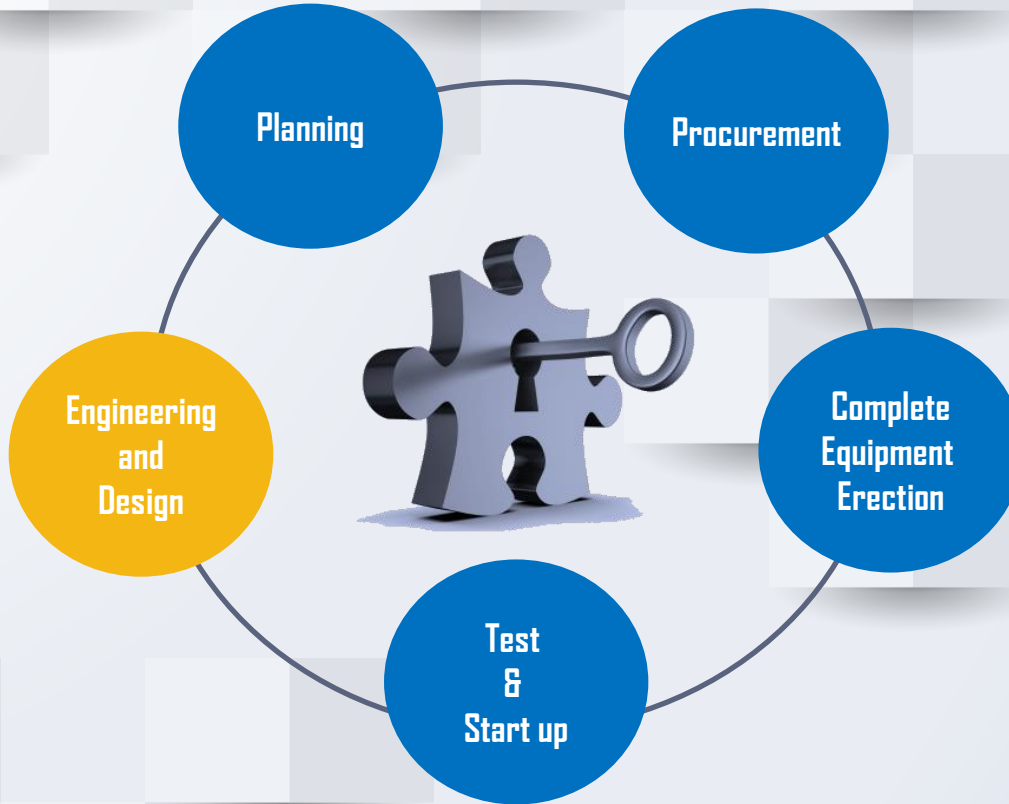
- DE coiler;
- Vertical rolling bending machine;
- Welding station;
- Steel frame, motorized and free supports and dedicated tools;

Manpower and equipment for :

- Equipment installations
- Piping works
- Module pipe racks installations;
- Turnkey mechanical works
- Supervision works
- Safety supervision
- QA/QC activities



Turnkey Supply



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Our Numbers



1994 Projects Completed



243 Customers



2000 Tons Processed in one year

Our mission:

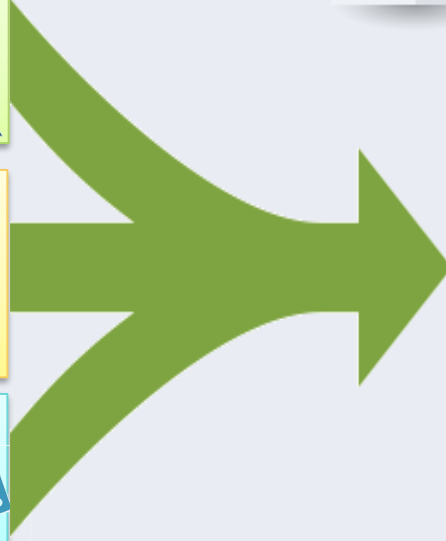
meeting your requests with
respect to quality and
delivery time



finding customized and
competitive solutions



making your requirements our
priorities to achieve
successful result.



Cav. Armando Lenardi

OUR REFERENCES

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TITANIUM REACTORS

Field: **PHARMACEUTICAL**

Location: **ITALY**

Year: **2020**

Project: **No 2 Reactors**

Design code: ASME VIII Div.1

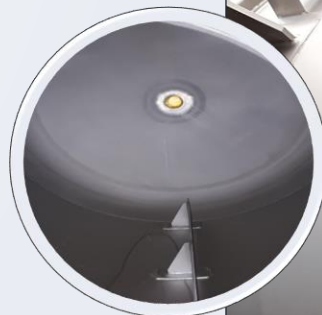
Diameter: 1800 mm

Height: 1,500 mm

Thickness: 6 mm

Material: SB 265 Titanium Gr2

Design Pressure: +0,050Mpa



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TANK FARM EMULSION RUBBER

Field: **EMULSION RUBBER**

Location: **FRANCE**

Year: **2019 - 2021**

Project: **Tank Farm**

Design code: EN14015/

API650

Diameter: 4000 to 8100 mm

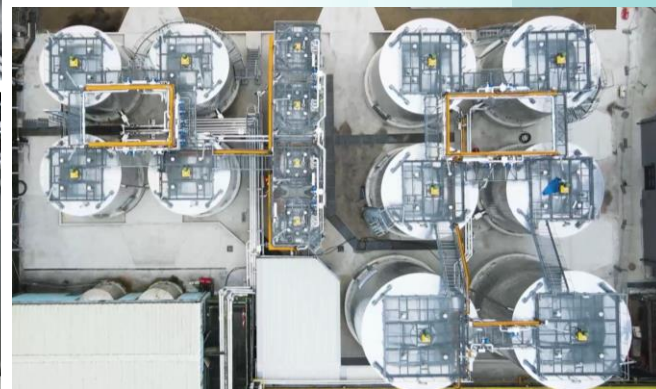
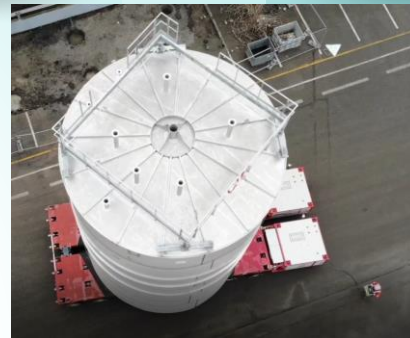
Height: 4000 to 12000 mm

Tanks capacity: 8 x 600m³

And 12 from 45 to 300m³

Material: EN 1.4307 / AISI

304L





CHEMICAL SLUDGE REACTOR

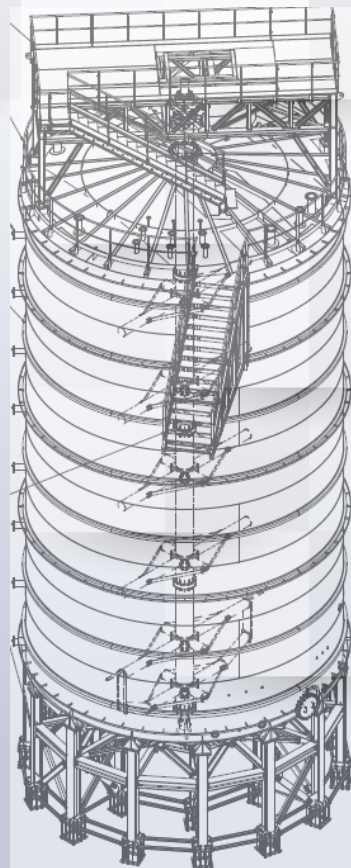


Zero accidents

Zero near missing



Project ref.	1893_1894_1902 1912_1930
Main scope of work	Design&Construction of no.1 reactor
Design code	EN13445
Material	SAF 2205
Additional scope	Demolition Civil works Mechanical works Agitator Insulation
Weight total	100 t



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AUSTRALIA PROJECT

Field: **CHEMICALS, DISTILLATION UNIT**



Projects:

- **Distillation columns with internals and insulation**
- **Pressure vessels**
- **Piping 13.000 inches (prefab.)**
- **Logistic**
- **Heat exchanger**

Project ref.	D540	D541	D530	D530
Material	AISI 304	AISI 304	AISI 304	AISI 304
Design code	ASME VIII	ASME VIII	ASME VIII	ASME VIII
Design pressure [bar(g)]	FV / +3,5	FV / +3,5	FV / +3,5	FV / +3,5
Design temperature [°C]	+150	+150	+150	+125
Diameter [mm]	2.700	2.400	2.500	2.700
Height [mm]	42.000	42.000	31.000	34.000
Weight [kg]	65.500	61.000	40.000	48.000

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LAB
SCALE-UP



QUALITY



BIOPOLYMERS



Project ref.	1903
Application field	Biochemical
Material	AISI 304
Design code	ASME VIII Div.1
Capacity	60 m ³
Design temperature	204°C
Design pressure	-1 / +2.1 barg

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MVR UNITS



Client: ---
Field: **Distillery (Brownfield)**
Location: **Australia**
Project: **MVR 6.000 mq/each**
(1835-1859)

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TIGER PROJECT

Client:

Field: **CHEMICALS**

Location: **CITAL WORKSHOP**

Projects: **5 DISTILLATION COLUMNS**

Project ref.	1543
Material	1.4571/1.4462 (316Ti)
Design code	AD2000 / PED
Design pressure [bar(g)]	-1 / +6
Design temperature [°C]	-10 / +200
Diameter [mm]	1.600-4.200
Height [mm]	27.300 to 51.000
Weight [kg]	34.000-123.000
Thicknesses [min-max]	10 / 20
No.Bo	TUV



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GRAAL PROJECT

Client:

Field: **CHEMICALS**

Location: **CITAL WORKSHOP**

Project: **LOW PRESSION COOKING REACTOR**

CORE EQUIPMENT FOT BIOETHANOL 2G PLANT



Project ref.	1670
Material	UNS S31803 – SAF2205
Design code	ASME VIII Div.1
Design pressure [bar(g)]	-1 / +10
Design temperature [°C]	0 / +177
Diameter [mm]	4.500
Height [mm]	33.500
Weight [kg]	90.000
Thicknesses [min-max]	16 / 20
No.Bo	TUV

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Bonus for early
delivery awarded



Quality



CHEMICAL IRON OXIDES

Project ref.	1840-1870
Project type	Replacement project
Main scope of work	Design&Construction of no.1 reactor
Product	Yellow iron powder
Design code	EN13445
Material	SAF 2205
Additional scope	Civil works, Demolition, Mechanical works, Insulation
Weight total	120 t



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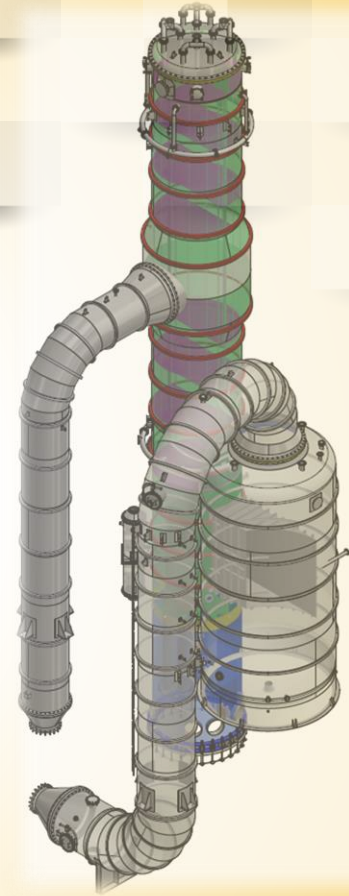


MVR PROJECT

Client: Field: **Distillery (Brownfield)**
Location: **Selby (United Kingdom)**
Project: **MVR 6.000 mc**
(1795-1804)

Turnkey project:

- Design
- Shop works
- Piping
- 3D modelling
- Steel works
- Mechanical installation
- Testing





RESIN PLANT

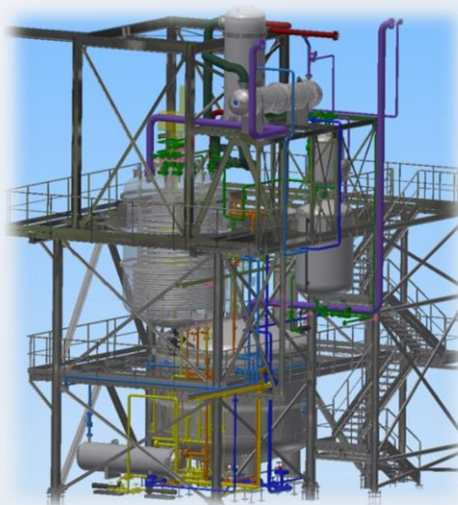
Client:

Field: **CHEMICAL**

(Brownfield)

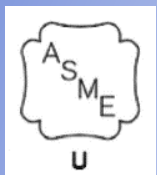
Location: **ITALY**

Project: **Shop vessels,
steel structure, piping
and site mechanical
installation, testing
(1715)**



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FINE CHEMICALS



<u>Project ref.</u>	1734 (1 piece) 1756 (2 pieces)	<u>Design temperature</u> [°C]	120
<u>Country</u>	US	<u>Diameter</u> [mm]	2920
<u>Application field</u>	Chemical	<u>Height</u> [mm]	9500
<u>Material</u>	AISI 316	<u>Weight</u> [kg]	17360
<u>Design code</u>	ASME VIII Div.1	<u>Thicknesses</u> [min-max]	8
<u>Design pressure</u> [bar(g)]	-0,08 / +0,48	<u>No.Bo</u>	SGS

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MVR PROJECT

Location: **ITALY**

Category	No. 2 Evaporators separators
Project ref.	1738
Material	AISI 316
Design code	EN 13445
Design pressure [bar(g)]	-1 / +0,49
Design temperature [°C]	-0 / +110
Diameter [mm]	1.900
Height [mm]	22.000
Weight [kg/each]	23.000
Thickness	8
Tube bundle	No.592 d.42,4x1,25



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RESIN PLANT

Client:

Field: **CHEMICAL** (Brownfield)

Location: **ITALY**

Project: **Shop vessels, steel structure,
piping and site mechanical
installation, testing (1753)**





DISTILLATION UNIT



Project ref.	1730
Application field	Chemical
End user	
Material	AISI 304 /316
Design code	AD2000 / PED
Design pressure [bar(g)]	-1 / +4
Design temperature [°C]	-25 / +160
Diameter [mm]	1.700-2.600
Height [mm]	27.300 to 41.000
Weight [kg]	21.100 to 59.000
Thicknesses [min-max]	6 / 12
No.Bo	TUV

Additional supplied services:
Drawings 2D/3D
Insulation
Vortex shedding verification
Steel structures
Scaffolding

Category	No. 7 tanks
Material	AISI 304/316
Design code	VdTUV/ AD-2000
Design pressure [bar(g)]	-0,02/+0,1
Design temperature [°C]	-25 / +100
Diameter [mm]	6.200-9.600
Height [mm]	10.000 to 16.000
Weight [kg]	150.000
Thicknesses [min-max] mm	3-6
No.Bo	TUV





REACTORS UNDER FATIGUE

Scope of work: Design & Construction of no.3 reactors

Design code: EN13445

Total weight: 14000 Kg

Material: SS 316L

Design Main: Fatigue



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BIOTECH

Scope of work: Mec. Design&Construction
of no.1 bioreactor FERMETER Capacity 48.000 l

Design code: AD-Merkblatt

Thickness: 10 mm

Diameter: 2800 mm

Empty weight: 10000 Kg

Height: 7,000 mm

Material: SS 316L

Design Main: 4 barg / FV

10°C/+150°C

Half Pipe: 3 inch, AISI 304

Agitator: Top Mounted



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SHIP SCRUBBER

Scrubbers for MARINE Installation
Material: 254SMO



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COLUMNS

Client:

Field: **Chemical**

Location: **Italy**

Design code: ASME VIII

Project: **1658**

Diameter: 850 mm

Total weight: 40 Tons

Height: 26,000 mm

Material: AISI 316

Design Pressure: FV / +5

Thickness: 6/12 mm

PED: CAT. 4 Mod. G

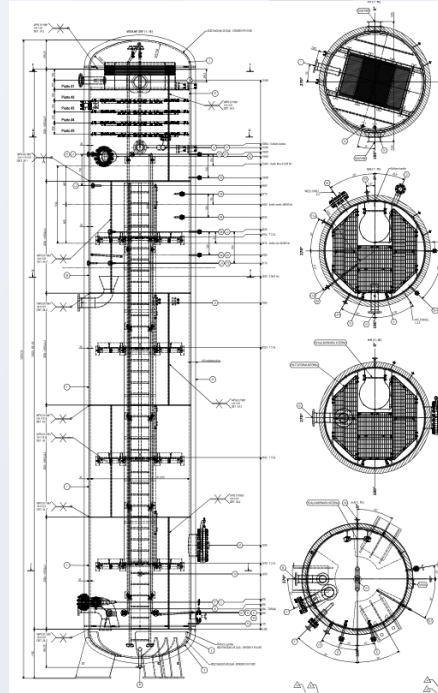


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REBOILER



Client:
Field: **Replacement of No. 1 water Boiler**

Location: **Italy**

Year: **2018**

Project: **REBOILER**

Diameter: 2200 mm

Total weight: 40 Tons

Height: 12,500 mm

Material: P265GH

Volume: 50 m³

Av. Thiok 30 mm

Design: 22 barg / 220°

Additional:

Failure analysis of existing one

Fatigue verification

Stress analysis

Piping 3D Scan and Modelling

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«BIOETHANOL 2G PROJECT»

Client:

Field:

Location: **CRESCENTINO,
ITALY**

Year: **2015**

Project main scope: **23
PROCESS TANKS IN in
LDX2101/304 (1630)**

Additional scopes:

- **Core equipment**
- **Pipe racks**
- **Piping work**
- **Steel structures**
- **Mechanical Installation**
- **Supervision**



Tank no.	Total m ³	Installed [t]	Site activities for tank erection (weeks)	Maximum site workload for tank erection (no.)
23	30.000	1.000	56	18

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«PET PROJECT»

Client:

Field: **Petrochemical**

Location: **Corpus Christi, TX
(USA)**

Year: **2015 - 2016**

Project: **19 STORAGE TANKS
(1739)**

- Diameter: from 6 to 46 m
- Weight: from 17 to 310 ton
- Total weight: from
- Height: from 6 to 24 m
- Material: 1300 Ton
 - Carbon steel (A53),
 - Stainless steel (304L 316L)
 - Duplex (LDX2101)
 - Superduplex.



Design
Material
procurement
Shop works
Erection
Testing



«CARBOXYLATE PROJECT»

Owner:

EPC:

Field: **PETROCHEMICAL**

Location: **SINGAPORE**

Year: **2015 - 2016**

Project: **11 STORAGE TANKS (1740)**

- Diameter: from 7 to 9,5 m
- Height: from 9 to 22 m
- Weight: from 15 to 51 ton
- Total weight: 350 ton
- Material: Stainless steel (304L / 316L)
- Manpower: up to 20

Design

Material procurement

Shop works

Erection

Testing

Insulation

Scaffolding

Painting

Fire water system

Pipe racks

Steel structures

Supervision





«BIOETHANOL PROJECT»

Client: Confidential

Field:

Location: **HULL, UNITED KINGDOM**

Year: **2008**

Project: **11 STORAGE TANKS (1561)**

- **Material: Stainless steel (304L) and Duplex 2101**
- **Total weight: 1100 ton**

**Design
Prefabrication
Erection
Testing**





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Quality innovates the world

Video of tanks on site



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