

#### Steel Works

COMPANY LOCATION COUNTRY: 2014 OI Manufacturing São Paulo Brazil **PROJECT** Furnace #H8, melting cross fire: CONTRACTOR Furnace and regenerators steel partial reconstruction; DETAIL: Buckstays, Crown binding steel, insulation binding steel, Ports and Doghouses; New Working End layout; Alcove modification; Forehearths steel partial reconstruction and new steel Project from: OI Refractory installed (Tons.): Steel suply (Tons.): 80 tons 2014 Crisnova - Caudete (Vidrala Spain **PROJECT** Furnace CR2-129sq, End port, new rebuilding: CONTRACTOR: Completely new steel structure of furnace; DETAIL: Partial steel of regenerators; Modification of working end; Forehearths steel casings elevation; Furnace, regenerators and forehearths walkways modification / installation; Project from: Horn/Vidrala Steel suply (Tons.): 230 tons Refractory installed (Tons.): Vetropack St Prex Switzerland 2014 **PROJECT** Forehearth #214 rebuild 2014: CONTRACTOR: New distributor layout; DETAIL: Forehearth support, walkways, access and casing installation; Machine distributor platform installation; Modification of building roof. Project from: HORN Refractory installed (Tons.): Steel suply (Tons.): 2013/2014 Isover SG Billesholm Billesholm Sweden **PROJECT** Furnace T4 and Feeder rebuild 2013/2014: CONTRACTOR: Electrical furnace 42 sqm Fibre production; DETAIL: Furnace, canal and forehearths steel partial reconstruction. Project from: Saint Gobain Isover Refractory installed (Tons.): Steel suply (Tons.): 2013/2014 Keraglass Bagneaux sur Loing France **PROJECT** Furnace #11 renovation 2013/2014: CONTRACTOR: Partial furnace steel structure modification; DETAIL: Bottom Plates, Buckstays AVB, Fusion walls tank plates, Crown binding steel, Insulation binding steel; Superstructure steel supports and monorails. Project from: Keraglass Refractory installed (Tons.): Steel suply (Tons.): 32 tons

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COMPANY LOCATION COUNTRY:

2013 O.I. Manufacturing Veauche France

**PROJECT** Furnace #4 renovation 2013-.

Furnace steel structure modification, Walkways, Furnace DETAIL:

cooling and New forehearth casing #41.

Project from: OI Steel suply (Tons.): 85 tons Refractory installed (Tons.):

2013 O.I. Manufacturing Puy Guillaume France

**PROJECT** Modification of production lines M52, M53 and M54: Structures of machines support; DETAIL:

Structure and walkways of forehearths, including stairs and

handrails;

Forehearths casings.

Project from: OI Steel suply (Tons.): 100 tons Refractory installed (Tons.):

Verallia Gran Canaria 2013 Telde - Gran Canaria Spain

**PROJECT** Furnace 45sqm, melting end port with regenerators; Furnace, regenerators and forehearths completely

DETAIL: reconstruction.

Project from: Verallia & LaCruz Refractory installed (Tons.): Steel suply (Tons.): 185 tons

2013 Ardagh Glass Irvine - Portland United Kingdom

**PROJECT** Furnace P5, melting end port:

Furnace overall reconstruction; DETAIL:

Regenerators partial reconstruction.

Project from: HORN Refractory installed (Tons.): Steel suply (Tons.): 186 tons / 330 m2

2013 OI Manufacturing São Paulo Brazil

**PROJECT** Furnace #H4, melting cross fire:

Furnace and regenerators steel partial reconstruction; DETAIL: Buckstays, Crown binding steel, insulation binding steel,

Ports and Doghouses; Working End, Alcoves and Forehearths steel partial

reconstruction; WE. Alcoves & Forehearths binding superstructure

Project from: OI Refractory installed (Tons.): Steel suply (Tons.): 35 tons

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COMPANY LOCATION COUNTRY: 2013 Bormioli Rocco Masnieres France **PROJECT** Furnace #5 - Repair 2013: CONTRACTOR: Modification of Working End; DETAIL: New layout of forehearths, supports, casings & superstructure: Modification and installation of forehearths combustion Modification and installation of forehearths cooling system. Project from: AGMS Refractory installed (Tons.): Steel suply (Tons.): 20 tons 2013 Phoenicia Glass Works Yeruham Israel **PROJECT** Furnace 83sqm, melting end port with regenerators; CONTRACTOR: Furnace, regenerators and forehearths completely DETAIL: Project from: GlassTech Steel suply (Tons.): 225 tons Refractory installed (Tons.): Barbosa & Almeida Marinha Grande Portugal 2013 **PROJECT** Furnace C. Partial Reconstruction: CONTRACTOR: Partial steel structure of regenerators; DETAIL: Buckstays, Crown Binding steel and Insulation binding Project from: Lizmontagens, SA. Refractory installed (Tons.): Steel suply (Tons.): 30 tons 2012/2013 Verallia Cognac Cognac France **PROJECT** Furnace H3, melting end port with regenerators: CONTRACTOR: Furnace partial reconstruction; DETAIL: Regenerators partial reconstruction: Forehearths total reconstruction: Project from: S.E.T. Refractory installed (Tons.): Steel suply (Tons.): 70 tons 2012/2013 Verallia Alver Oran Algeria **PROJECT** Furnace #H2, 115 m2 Recuperator cross fire: CONTRACTOR: Furnace And Forehearths steel partial reconstruction; DETAIL: Recuperator and steel support structure completely new; Project from: GlassTech Steel suply (Tons.): Installation of steel Refractory installed (Tons.):



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COMPANY LOCATION COUNTRY:

2012 Verallia Montblanc Tarragona Spain

PROJECT Furnace H1, melting end port with regenerators and Morgan:

DETAIL: Morgan:
Furnace overall reconstruction

Furnace overall reconstruction
Regenerators partial reconstruction

Project from: Verallia Refractory installed (Tons.): Steel suply (Tons.): Total of new

2012 AGSM Chateauroux France

PROJECT Furnace 9, oxi - combustion:

DETAIL: Furnace, throat & forehearths partial reconstruction

Project from: AGSM Refractory installed (Tons.): Steel suply (Tons.): Total of new

2012 Ardagh Glass Knottingley United Kingdom

Zo12 Adagit Glass Religion

PROJECT Furnace K71, melting end port:
DETAIL: Furnace overall reconstruction

Regenerators partial reconstruction

Project from: HORN Refractory installed (Tons.): Steel suply (Tons.): Total of new

2012 Isover Orange Orange United Kingdom

PROJECT Furnace 133 m2 electrical melting.

DETAIL: Fibre production

Furnace, canal and forehearths steel partial reconstruction.

Project from: Saint Gobain Isover Refractory installed (Tons.): Steel suply (Tons.):

2011/2012 Verallia Lonigo Lonigo Italy

PROJECT Furnace #H31, 115 m2 melting cross fire.

DETAIL: Furnace and regenerators steel partial reconstruction
Working end steel total reconstruction

Feeders #3110 and #3120, superstructure overall

reconstruction

Cooling tank and boosting system.

Walk wavs of furnace. melter area and ports complete.

Project from: GlassTech Refractory installed (Tons.): Steel suply (Tons.): 150 tons



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THERMAL TECH	COMPANY		LOCATION	COUNTRY:	
2011/2012	Saint-Gobain En	nballage	Saint-Romain	France	
PROJECT DETAIL:			Furnace SRP2. Partial Reconstruct Manufacturing and assembly of: Steel structure furnace – complete Steel structure of regenerators - particles of the structure feeders channels at Electrodes cooling system platform Cooling system for tank, crown	e artial and superstructure	CONTRACTOR:
Project from:	SGE	Refractory installed (	(Tons.):	Steel suply (Tons.):	150 tons
2011/2012	Saint Gobain De	esjonqueres	Mers Les Bains	France	
PROJECT DETAIL:			Furnace #2 electrical melting, over including working end and feeders Manufacturing and assembly of: feeders support structure and IS in Complete working end, channel ar Feeder 22 complete, channel, sup Feeder 21 complete, channel and	s. nachines, and walk ways. nd superstructure erstructure	CONTRACTOR:
Project from:	TecniFrance	Refractory installed (	(Tons.):	Steel suply (Tons.):	Steel structure
2011/2012	Guardian Glass		Rostov	Russia	
PROJECT DETAIL:			New float furnace, at Rostov plant Supervision and assembly of: Melter steel structure, working end furnace support structure. Walkways Cooling systems Inversion and melt rate regulation	d, distributor, including	CONTRACTOR:
Project from:		Refractory installed (	(Tons.):	Steel suply (Tons.):	Total of structure
2011	Saint Gobain De	esjonqueres	Mers Les Bains	France	
PROJECT DETAIL:			Feeder #62, Intermediate repair Manufacturing and assembly of: Intermediate channel for feeder, u superstructure, including modificat		CONTRACTOR:
Project from:	Temi	Refractory installed (	(Tons.):	Steel suply (Tons.):	1,5 tons
2011	Gallo Vidro (Vidi	rala Group)	Marinha Grande	Portugal	
PROJECT DETAIL:			Manufacturing and assembly of str Furnace 4, melting end port: total in Regenerators, manufacturing and structure	reconstruction	CONTRACTOR:
			Furnace -melter – Partial supply of Furnace - melter – Modification of Furnace - throat – Supply and ass	steel structure	



DETAIL:

### References by industry

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COMPANY LOCATION COUNTRY:

2010/2011 O.I. Manufacturing Alloa, Scotland United Kingdom

**PROJECT** Furnace #F81, 70 m2 melting cross fire. Furnace and regenerators steel structure partial DETAIL:

reconstruction

Working end steel total reconstruction Cooling tank and boosting system.

Project from: OI Steel suply (Tons.): 160 tons Refractory installed (Tons.):

2010 Saint Gobain Desjonqueres Mers Les Bains France

**PROJECT** Furnace 3, recuperator furnace, partial rebuilding

Manufacturing and assembly of: DETAIL:

Steel structure furnace, recuperator supports and working

Working end structure steel

Forehearths casing and superstructure steel

Walkways for furnace .

Project from: Temi Steel suply (Tons.): 30 tons Refractory installed (Tons.):

2010 BaVidro, SA Venda Nova - Amadora Portugal

Furnace VN3 - Melting end port. **PROJECT** 

New Furnace

Manufacturing and assembly of:

Steel structure furnace, regenerators and working end Working end casing and superstructure stee Forehearths casing and superstructure steel Walkways for furnace and regenerator

Project from: Owens-Illinois Refractory installed (Tons.): Steel suply (Tons.): 220 tons

2010 BaVidro, SA **Avintes** Portugal

**PROJECT** Furnace AV4 - Melting end port. Full Reconstruction DETAIL:

Manufacturing and assembly of:

Steel structure furnace, regenerators and working end Working end casing and superstructure stee

Forehearths casing and superstructure steel Walkways for furnace and regenerator

Project from: Sorg / Owens-Illinois Refractory installed (Tons.): Steel suply (Tons.): 200 tons

2010 O.I. Manufacturing Sevilha Spain

**PROJECT** Furnace H100, melting end port.

Furnace and regenerators steel partial reconstruction DETAIL:

Disassembly and reassembly steel structure.

Project from: OI Refractory installed (Tons.): Steel suply (Tons.): 20 tons

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**PROJECT** 

### References by industry

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COMPANY LOCATION COUNTRY:

2009/2010 O.I. Manufacturing Vayres France

PROJECT Furnace 1, melting cross fire.

DETAIL: Furnace and regenerators steel partial reconstruction

Cooling tank and boosting system.

Working end steel total reconstruction

Project from: OI/Temi Refractory installed (Tons.): Steel suply (Tons.): 140 tons

2009 Crisnova – Caudete (Vidrala Spain

PROJECT Furnace CR1-151sq, End port, new rebuilding

DETAIL: Assembly of:

Steel structure furnace, working end and regenerators
Feeders steel casing and superstructure

840 sq. meters of walkways.

Project from: Sorg/Vidrala Refractory installed (Tons.): Steel suply (Tons.): 550 tons

2008/2009 BaVidro, Sa. Venda Nova Venda nova - Amadora Portugal

2000/2000 Bavidio, Ga. Venda Nova Venda Nova - Amadora i Gragar

PROJECT

DETAIL:

Furnace 2, End port, New rebuilding

All steel structure of furnace and regenerators

Modification project refractory of melter

Modification project steel structure furnace/regenerators

Project: Lizmontagens/Heye Glass.

Furnace 71. Waste Gas channel (by-pass).

Project from: Lizmontagens/Heye Refractory installed (Tons.): Steel suply (Tons.): 270 tons

2008 S. G. Vetri Gazzo Veronese Italy

2006 S. G. Vetil Gazzo Velollese Italy

DETAIL:

Project from: S.G. Vetri/Gtech Refractory installed (Tons.): Steel suply (Tons.): 15 tons

2008 Vetrobalsamo SPA Milan Italy

PROJECT Oxi-gas recuperator furnace, partial rebuilding CONTRACTOR:

Project from: Vetrobalsamo SPA Refractory installed (Tons.): Steel suply (Tons.): 15 tons



DETAIL:

## References by industry

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COMPANY LOCATION COUNTRY:

2008 S. G. Vetri Gazzo Veronese Italy

PROJECT Furnace F2, End port

DETAIL: Aditional Regenerator crown cooling Walway batch silo.

Regenerator crown cooling CONTRACTOR:

Project from: S.G. Vetri/Gtech Refractory installed (Tons.): Steel suply (Tons.): 7 tons

2008 O. I. Glasspack GmbH Holzminden Germany

PROJECT Furnace 2, End port, partial rebuilding

Melter crown engineering support.

CONTRACTOR:

CONTRACTOR:

CONTRACTOR:

Project from: Lizmontagens/O.I. Refractory installed (Tons.): Steel suply (Tons.): 35 tons

2008 Rhodia Silices Collonges au Mt. D'Or France

PROJECT Furnace VT 11000, End port, partial rebuilding

DETAIL: (New project engineering regenerators steel structure)

All: All steel structure of regenerators

Partial steel structure of furnace.

Project from: Lizmontagens/Rhodia Refractory installed (Tons.): Steel suply (Tons.): 60 tons

2008 Manufacture du Verre (Vidrala Belgium

PROJECT Furnace MDV3, End port, new rebuilding

DETAIL:

Manufacture and assembly of:
Steel structure furnace and regenerators
Feeders steel casing and superstructure

750 sq. meters of walkways.

Project from: Sorg/Vidrala Refractory installed (Tons.): Steel suply (Tons.): 500 tons

2008 Barbosa & Almeida Marinha Grande Portugal

PROJECT Furnace A. Partial Reconstruction

DETAIL:

Manufacturing and assembly of:
Steel structure furnace and regenerators
Steel structure feeders support

Project from: Owens/Illinois Refractory installed (Tons.): Steel suply (Tons.): 50 tons



Project from: Vidrala/Owens Illinois

## References by industry

Steel suply (Tons.): 40 tons

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COMPANY LOCATION COUNTRY: 2008 Barbosa & Almeida Marinha Grande Portugal **PROJECT** Furnace B. Full Reconstruction CONTRACTOR: Manufacturing and assembly of: DETAIL: Steel structure furnace and regenerators Steel structure feeders support Feeders and superstructure steel channels Electrodes cooling system platforms Project: Owens/Illinois Project from: Owens/Illinois Steel suply (Tons.): 290 tons Refractory installed (Tons.): 2008 Ursa France SAS St. Avold France **PROJECT** Furnace VSM 35m2. Full Reconstruction Manufacturing CONTRACTOR: and assembly of: Furnace steel structure Feeder and DETAIL: superstructure steel channels. Project from: Sorg Steel suply (Tons.): 40 tons Refractory installed (Tons.): 2007/2008 Saint-Gobain Vetri Pescia Italy **PROJECT** Furnace H82. Full Reconstruction Manufacturing and CONTRACTOR: assembly of: Steel structure furnace and regenerators DETAIL: Steel structure feeders support Feeders and superstructure steel channels Electrodes cooling system platforms. Project from: SGV/GTech Refractory installed (Tons.): Steel suply (Tons.): 550 tons 2007 O.I. Manufacturing Reims France **PROJECT** Furnace 3, melting cross fire. Intermediate Reconstruction CONTRACTOR: Manufacturing and supply of throat cooling system. DETAIL: Project from: Refractory installed (Tons.): Steel suply (Tons.): 0,5 tons 2007 Castellar Vidrio (Vidrala Group) Barcelona Spain **PROJECT** Furnace 1 melting end port. Intermediate Reconstruction CONTRACTOR: Partial manufacturing and assembly of steel structure, DETAIL: passerelles and fan system.

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Refractory installed (Tons.):



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COMPANY LOCATION COUNTRY:

2007 Saver Glass – Société Autonome

France

PROJECT DETAIL:

Furnace 3, Intermediate Reconstruction Manufacturing and assembly of feeders steel structure. Water jackets, batch charger and feeders.

CONTRACTOR:

Project from: Refractory installed (Tons.): Steel suply (Tons.): 9 tons

2007 Saint-Gobain Vetrotex Alcalá - Madrid Spain

PROJECT DETAIL: Manufacturing and assembly of steel structure furnace and channels Reconstruction : Furnace AR Fiberglass.

CONTRACTOR:

Project from: SG-Vetrotex Refractory installed (Tons.): Steel suply (Tons.): 60 tons

2006 Saint-Gobain Emballage Lagnieu France

PROJECT DETAIL:

Manufacturing and assembly of steel structure and feeders Furnace 1, melting end port: Reconstruction and enlargement.

CONTRACTOR:

Project from: SGE Refractory installed (Tons.): Steel suply (Tons.): 450 tons

2006 Gallo Vidro (Vidrala Group) Marinha Grande Portugal

PROJECT DETAIL:

Manufacturing and assembly of steel structure Furnace 4, melting end port: Intermediate Reconstruction.

CONTRACTOR:

Project from: SORG Refractory installed (Tons.): Steel suply (Tons.): 25 tons

2006 Barbosa & Almeida Avintes Portugal

PROJECT DETAIL:

Manufacturing and assembly of steel structure Furnace 2, melting end port: Overall Construction.

CONTRACTOR:

Project from: Owens Illinois Refractory installed (Tons.): Steel suply (Tons.): 190 tons



#### Steel Works

COMPANY LOCATION COUNTRY:

2006 Saint-Gobain Emballage Chalon France

PROJECT Manufacturing and assembly of steel structure Furnace 2,
DETAIL: melting end port: Intermediate repair.

CONTRACTOR:

CONTRACTOR:

Project from: SGE Refractory installed (Tons.): Steel suply (Tons.): 15 tons

2006 Holophane Les Andelys France

PROJECT Engineering, manufacturing and assembly of steel structure
DETAIL: Furnace 5, melting end port: Reconstruction and

enlargement.

Project from: Project from: Project from: Project from: Steel suply (Tons.): 90 tons

2005 Saint-Gobain Emballage Chalon France

PROJECT Manufacturing and assembly of steel structure Furnace 1,

DETAIL: melting end port: Intermediate repair.

CONTRACTOR:

Project from: SGE Refractory installed (Tons.): Steel suply (Tons.): 30 tons

2005 Saint-Gobain Emballage Saint Romain Le Pui France

PROJECT Manufacturing and assembly of steel structure Furnace 1,
DETAIL: melting end port: Intermediate repair.

CONTRACTOR:

Project from: SGE Refractory installed (Tons.): Steel suply (Tons.): 20 tons

2005 Duralex, SAS Rive de Gier France

PROJECT Engineering, manufacturing and assembly of steel structure
DETAIL: Electrical Furnace, Tableware: Reconstruction and

enlargement.

CONTRACTOR:

Project from: Project from: Project from: Steel suply (Tons.): 40 tons



#### Steel Works

COMPANY LOCATION COUNTRY:

2004 Barbosa & Almeida Marinha Grande Portugal

PROJECT

DETAIL:

Manufacturing and assembly of steel structure.

Reconstruction and enlargement: Furnace C, melting end port.

CONTRACTOR:

Project from: Owens Illinois Refractory installed (Tons.): Steel suply (Tons.): 200 tons