

CASE STUDY

COLD REFRACTORY DOWN INSPECTION

Metpump® C-190 G and AZS 20
Furnace Cold Repaired 9/2014

Campaign Life: 9 Years, One Month

BACKGROUND

In September of 2014 Magneco/Metrel performed an extensive cold repair on an endport regenerative glass furnace with an area of 44m². MetPump® C-190 G and MetPump® AZS 20 colloidal silica bonded monolithic refractories were used in the cold repair. The furnace produces soda lime glass with an average pull rate of 170 MT/day. After a campaign of nine years and one month, a down inspection was performed on 10/18/2023.

As detailed in the following, MetPump® products delivered exceptional performance over the span of the campaign.

SCOPE

MetPump® replaced traditional refractory for regenerator upper, side and port walls, ports, melter sub bottom, and melter upperstructure breastwalls and port endwall.

METPUMP® APPLICATION

Upper Side Walls	Monolithic	C-190 G
Target Walls	Monolithic	C-190 G
Port Walls	Monolithic	C-190 G
Ports	Monolithic	AZS 20
Sub Bottom	Monolithic	C-190 G
Breast Walls	Monolithic	C-190 G
Port End Walls	Monolithic	AZS 20

BENEFITS/VALUE

MetPump® refractory products exceed the performance of conventional fused cast blocks for endwalls and non glass contact refractory lining in the glass furnace. Cost effective, easy to install, joint free, rat hole resistant, alkali resistant, thermal shock resistant—and available on short lead time.





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INSPECTIONS FINDINGS

Upperstructures

- Tuckstone line in place, no broken noses
- Overall wall thickness remain at 50%-80%
- No ratholes, no bowing
- Overall wall condition in good shape
- Doghouse upperstructure still in place
- Doghouse arch made in fused cast blocks collapsed during campaign

Port Endwall

- Tuckstone line in place, no broken noses
- Overall wall thickness remain at 70%
- No ratholes, wall sound/stable, no bowing
- Overall wall condition pretty good shape

Ports

- Sidewalls in good condition, no holes or spalled surface
- Crowns in good condition

Regenerator Upper Walls (left, right & side)

- Good condition, overall thickness is good, no holes or hot spots from the outside

Refiner Baffle Blocks

- Full thickness, no spalling or lining damage of any kind

Metpump® provided long life and steady, reliable furnace operation, without incurring any maintenance costs during the campaign. With excellent resistance to the wear mechanisms in the breastwalls, ports and endwalls such as thermal shock, hot abrasive fine dust and chemical attack resistance.

Metpump® provides a disruptive technology to the glass industry with high quality products that can replace or complement the traditional refractories in new furnaces, cold major or minor repairs and/or hot interventions.



ISO 9001:2015 ISO 14001:2015

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