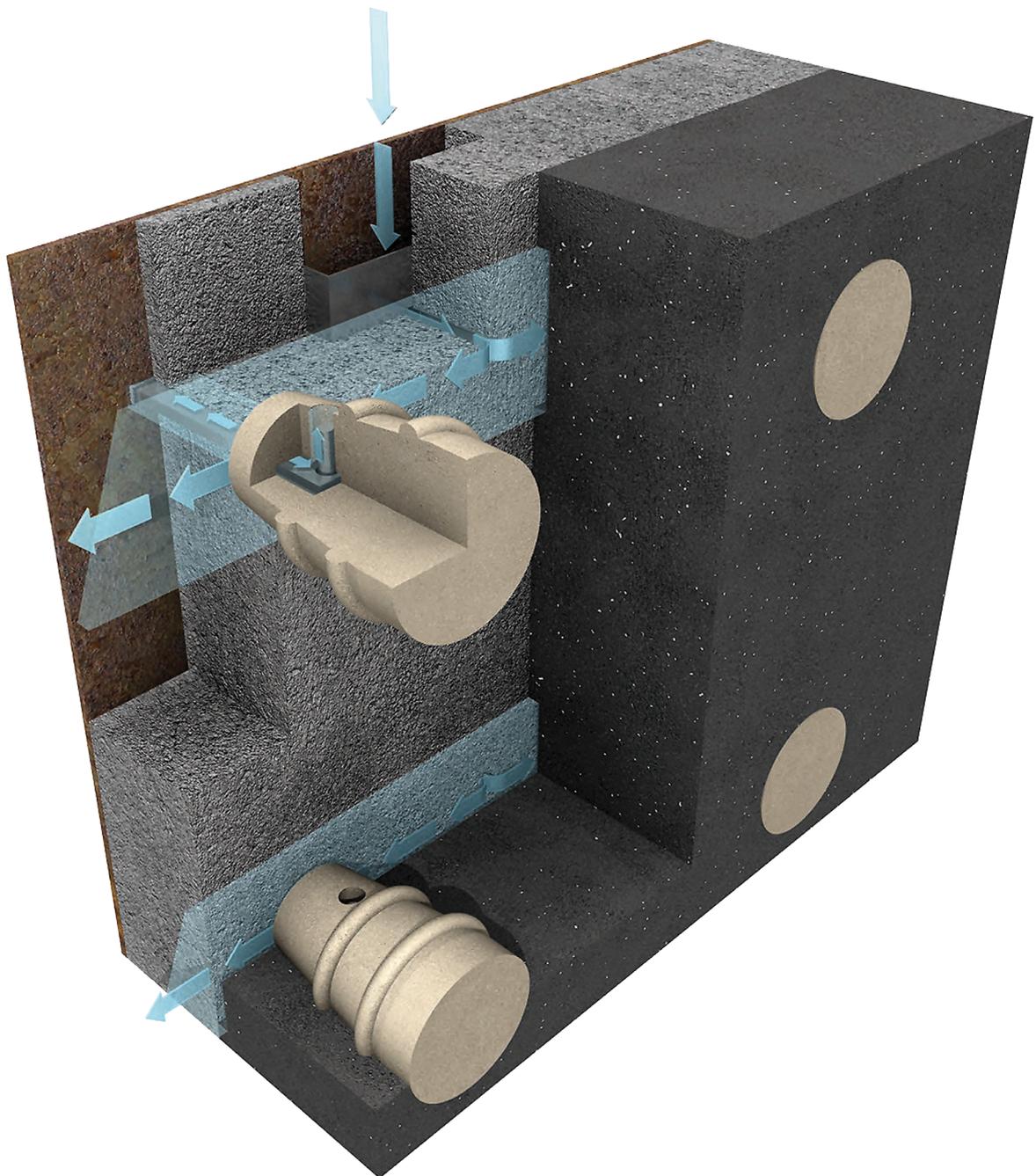


JuSyS[®] ACL

The refractory system for plant areas subjected
to intensive corrosion



JuSys® ACL stands for [Ju]enger+Gräter [SyS]tem [A]nti [C]orrosion [L]ining

JuSys® ACL was developed for those areas in a plant where highly corrosive constituents, such as chlorine, fluorine and alkali salts from the flue gas atmosphere, effect massive corrosion of the refractory materials and specifically the metallic anchoring. This is mainly the case in preheaters in the cement industry and in power plants – everywhere where substitute or alternative fuels are being used.

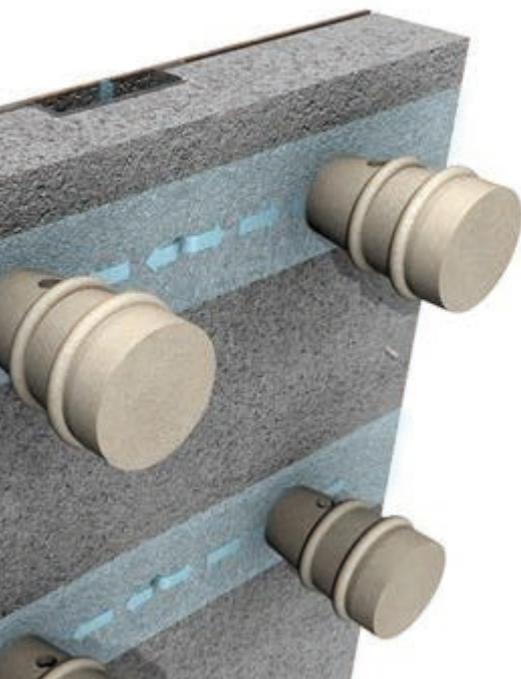
JuSys® ACL protects the furnace lining which usually consists of a multiple layer insulation out of refractory castables based on a simple principle. By a “rear-ventilation” of the lining with fresh air and slight overpressure an almost “clean” atmosphere will exist in the lining. This will significantly help to prevent the penetration of corrosive flue gases. Consequently, a kind of protective atmosphere is generated in the lining which provably prevents the corrosion of all metallic parts (anchors, furnace wall, etc.) in the system. Furthermore, less alkali salts migrate in the system. Thus the refractory material is likewise protected against the alkali attack.

The rear ventilation of refractory linings to protect against corrosion is not a new technology. It was first applied in 1998 by Jünger+Gräter in a waste incineration plant. Today this system to protect against corrosion in the waste incineration sector is state-of-the-art worldwide.

JuSys® ACL furthermore enabled successful application of this principle for the protection of monolithic refractory linings in other industrial sectors. In addition to the standard variant up to < 1,200 °C, we offer our customers the high temperature solution *JuSys® ACL HT* for application above 1,200 °C for various application purposes.

Advantages:

- Long time protection of the metallic anchoring against corrosion
- No corrosion problems on the furnace wall as result of acid corrosion if falling below the dew point
- Enhanced insulation enabling lower furnace wall temperature and improved protection of human beings
- Less heat loss means less fuel and less emission of CO₂
- Longer service lives mean less maintenance costs and higher availability
- Simple technology



JuSys® ACL anchors in a practical test.
Previous anchoring in the installed area had a maximum service life of only 9 months



JuSys® ACL new anchor

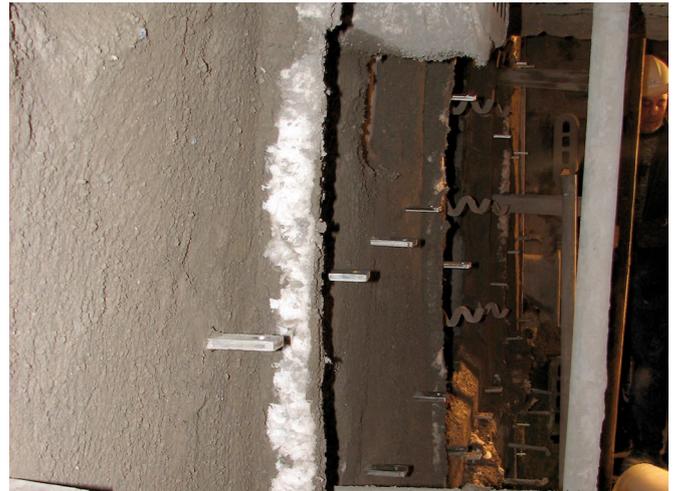


JuSys® ACL anchor after 24,000 operating hours

The illustration shows the steel anchoring for fixation of the insulating castable to the furnace wall with the assistance of V-anchors and flat steel anchors for attachment of the ceramic anchors on the front layer



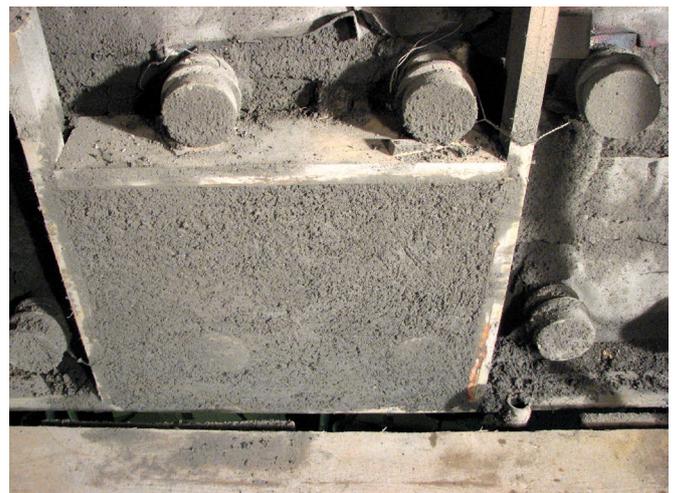
Surface of the insulating gunning concrete with the ventilated flat steel anchors for fixating the ceramic anchors



Installation of ventilation ducts for corrosion protection of the flat steel anchors including installation of ceramic anchors



Gunning concrete area of the front layer with inclusion of the ceramic anchoring of the front layer





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