

Range of Restoration Agents

To provide ideal restoration in all industrial and private domains BELFOR can utilise a wide range of restoration agents. The most important product groups are:

Alkaline cleaners

Alkaline cleaners (pH 10-14) with highly active surfactants and additives are needed for the effective removal of contamination on surfaces. Soap, wetting agents and neutral cleaners are mostly inadequate for this purpose. The alkaline constituents react with the dirt crust and break it up. The higher the pH rating, the faster soot and fire condensates or oil and grease deposits are dissolved. Hydrochloric acid present after fires is neutralised immediately and further corrosion is prevented or slowed down. According to the sensitivity of the contaminated surfaces/materials, use is made of weakly to strongly alkaline cleaners.

Organic cleaners

Cleaners on a solvent base are suitable in particular for the fast removal of grease- and oil-bearing forms of contamination or (construction) dust. Further advantages: they evaporate without leaving any residues and do not have to be rinsed off. That is why they are referred to as "single-stage cleaners".

Corrosion removers

Corrosion removers based on various material-compatible acids dissolve corrosion products ("rust") on metals after fires (hydrochloric acid exposure), water damage or environmental corrosion. Depending on the cause, nature, degree and effect of the corrosion on different metals and surfaces, adapted corrosion removers must be made available.

Preservative oils

Preservative oils stop or slow down corrosion on metals by means of inhibitors and (gas-tight) protective films against acids, water and oxygen. They are used when taking initial measures and finally to protect the metal surfaces after restoration.

Tried and tested BELFOR Restoration Agents

AC 11/ 12/14	Universal alkaline cleaners, use depends on contamination and required pH rating
EC 12	Electronic cleaner, audited by many manufacturers, satisfies American electronics standard J-STD-001D
CD 04	Gentle complex deruster for all metals, including stainless steel according to ASTM A380-06
HD 01	Manual deruster on phosphoric acid base according to the standard MIL-C-10578D, type VI
GC, PC	Universal gentle cleaners for inventory, plastics and lacquers
NC CR	Special cleaner for clean rooms and the food domain (to FDA)
LP 62, OP, WP	Highly effective corrosion-protective agents, for initial measures up to long-term storage
OC 24/62	Organic, residue-free cleaners, degreasers and water displacers
DA-P/-XT, DC/DC-LT	Alcoholic or aqueous disinfectants to combat bacteria, viruses and mildew

BELFOR RESTORATION AGENTS



The overall term restoration agents encompasses cleaners, corrosion removers, preservatives and other products needed to perform restoration and cleaning work. Effective restoration agents, alongside suitable restoration procedures, are the essentials of successful restoration. Thanks to the fact that BELFOR develops and produces its own restoration agents it is possible to manufacture them so they are adjusted precisely to fit the specific requirements and to ensure constant quality.

Development of Restoration Agents

The development of BELFOR restoration agents is conducted in BELFOR's own R&D laboratories. Here new recipes are worked out. The effectiveness and material compatibility of the restoration agents are established in accordance with internationally applicable and internal BELFOR standards in the laboratory and in practice.



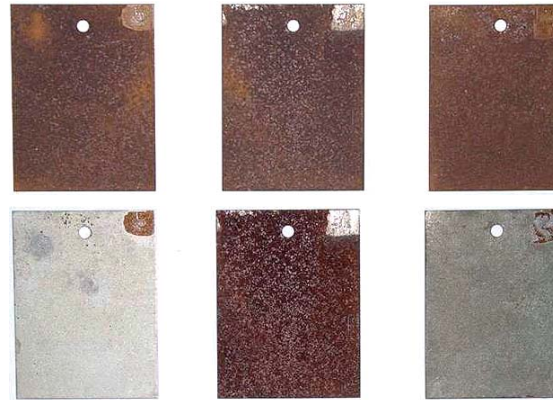
Mixing a new recipe

Depending on the type of restoration agent, the degreasing characteristic is checked using the so-called ball-bearing degreasing test, for example...



Ball-bearing degreasing test

...or corrosion removal is examined on various metal surfaces, such as steel, stainless steel, copper or zinc.



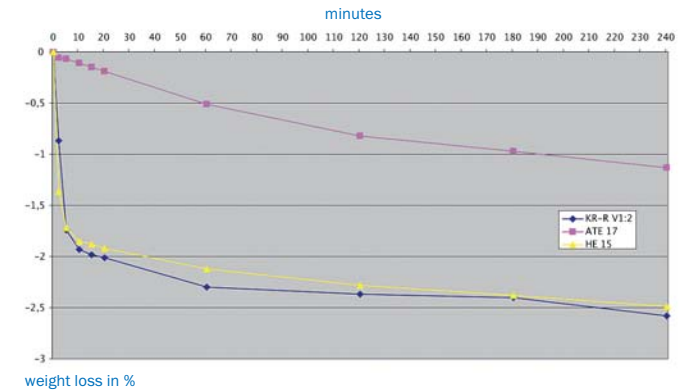
Corrosion removal test (before and after test)

The corrosion protection achieved by preserving metals is checked by means of tests on highly sensitive grey cast iron chips or metal plates. When they have been immersed in the preservative oil, they are monitored to establish how long the formation of rust is prevented in a corrosive solution (chloride acid) or in a gas atmosphere. Weather exposure tests lasting many months are also conducted.



Evaluation of a grey cast iron chip test according to DIN and FED standards

The tests on the effectiveness of restoration agents are evaluated, according to the type of test, only by visual means or by using special measuring methods, e.g. gravimetry.



Gravimetric evaluation of corrosion removal

If a recipe is found to be particularly effective, the chemical and physical properties (pH, flash point, density etc.) are determined and the restoration agent is released for production at Brandchemie GmbH, a BELFOR subsidiary.