

REJOURNAL

International



Loss Minimization Worldwide
by RELECTRONIC – REMECH



A global network

In the case of an industrial accident such as a fire or a flood immediate special measures and professional restoration techniques are frequently decisive in limiting the extent of the catastrophe. Due to its global organization RELECTRONIC-REMECH can be called on, at anytime, in order to provide local expertise, and assistance, in order to decontaminate equipment, restore the damage, and thereby minimize costs.

Every form of damage requires the application of specialist equipment and the most appropriate procedures. All cases of damage have only one thing in common - the urgency of the restoration work. The loss recovery procedure begins with immediate action, taken as soon as damage has occurred - which itself contributes considerably to cost minimization. However, in order to be able to introduce such immediate action the necessary resources required must be quickly brought together at the site. Through its global network RELECTRONIC-REMECH can achieve this within the shortest possible time in all parts of the world. As a multinational company RELECTRONIC-REMECH can call on subsidiaries and licensees throughout the world, which can then provide expert and immediate assistance within the shortest possible time, and will stand by the afflicted company in every possible way. At the same time it goes without saying that - in particular - incidents of major contamination will certainly profit significantly from the international strength of the com-



Professional help following incidents of damage: The restoration specialists of RELECTRONIC-REMECH are deployed throughout the world.

pany. RELECTRONIC-REMECH companies within each country with their specialist knowledge of the national markets can call on global resources at any time. Internationally-deployable project managers, a uniform training system, and standardized procedures are essential factors in providing this type of assistance.

Not just for the major incidents but also for the minor ones

The usefulness of the international presence of RELECTRONIC-REMECH does not however end with its support in providing manpower or technical equipment. Internal company communications are not inhibited by geographical borders. In the Research and Development Department of the company's headquarters in Ismaning the latest findings in all

aspects of restoration work come together from all over the world. There are hardly any forms of contamination which are not known of here. On the basis of this knowledge the specialist Research and Development staff can create new restoration concepts which can then be used by all subsidiaries. Improvements in technical equipment are made available to the worldwide RELECTRONIC-REMECH organisation almost immediately after development. Quality assurance processes are also being developed further in Ismaning. Methods and techniques are standardized here for global application. This unified know-how provides customers with the assurance that they will receive the same quality of restoration work wherever they are. Whether it is an incident of contamination at their branch or factory in Berlin, New York or Bangkok.

Cooperation has to be learned ...

Partnerships, which extend across national borders, demand experienced and prudent project management. The coordination of manpower and the application of the correct resources require great experience and a feel for what is important. RELECTRONIC-REMECH project managers possess such attributes. They are supported by an international logistics system. In the event of a request for assistance from one of the partner companies it is thus possible to help them quickly and unburdened. In all of this, language barriers only play a minor role. The mostly multilingual project managers and the standardized procedures ensure the international quality of all contracts which are handled.

When everything sticks together

(Switzerland) The Swiss company RELECTRONIC-REMECH AG overcame an unusual restoration problem in the summer of last year. An accident within a chemical company added a new category to the better-known damage classifications such as fire and water: Adhesive damage.

Even restorers rarely have to work with such sticky and difficult to remove contaminants as those that arose from an incident at a Swiss chemical company. The unfortunate company was concerned with the development and manufacture of acrylic-polymer systems for pressure-adhesives. An error during the mixing of reagents in July of last year had devastating consequences: An extreme temperature and pressure increase took place inside the reactor vessel in the production plant. All the safety systems certainly functioned but the pressure and temperature built up too rapidly. Within an extremely short time the thermometer climbed from 100°C to over 160°C. This resulted in a reactor pressure of around 20 bar. This load was too much for the cover of the tubular cooler. It was blown off and the adhesive was spread over a radius of 15 metres in the production shop. The cover of the tubular cooler was torn from its anchorage with such a force that it punched a hole in the roof of the shop. Because of this, sticky precipitation was also spread over the roof structure, as well as the cladding of the surrounding buildings.



A genuine alternative to known cleaning methods: The CO₂ blasting process.

First of all free up the paths

After the accident RELECTRONIC-REMECH AG started with immediate action. The first thing was to free the accessways from adhesive. The coarsest contaminants were removed with special cleaning solutions to permit paths to be created. It was only after this that it was possible to move back into the area which resembled a limestone cave: Transparent adhesive stalactites, were hanging from all pipes and equipment items.

Also during these immediate measures the Swiss specialists prepared a concept for the minimization of damage and clarified the technical feasibility of restoration. One week later began the primary cleaning of plant and machinery, followed by manual secondary cleaning. For three

months eight to ten restorers worked at the site until all the contamination was removed. Due to their fast and accurate work, the pilot plant, which had also been badly damaged during the accident, could be restarted again.

Latest restoration methods

Freeing the surfaces from the thick layer of adhesive proved to be extremely laborious. Thus it was possible to remove the coarsest contamination with special solvents but for many of the - mainly engineering - facilities this procedure proved to be unsuitable. The surfaces of the machines and equipment were too sensitive to treat with chemicals. It was also not possible to exclude the possibility of corrosive effects. A similar problem would also have arisen if

cleaning was to be performed by conventional blasting procedures such as with glass beads, sand or steam. In addition to the abrasive effect of the cleaning method there would also have been high disposal costs for the resultant by products. There was in practice only one single alternative which could be considered: "This case was the first major application of the new CO₂ method", remembered Kurt Peverelli, Managing Director of the Swiss RELECTRONIC-REMECH AG.

Residue-free and reliable

In this process particles of dry ice, so-called pellets, are "shot" at the surface to be cleaned at a pressure of about 60 to 70 bar. Dry ice is the solid form of carbon dioxide (CO₂) at a temperature of minus 78.5°C. "The

decisive point with this type of cleaning is the fact that the dry ice immediately transforms into its gaseous form under a given influence, e.g. on impact or under the effect of heat", continued Kurt Peverelli. With the CO₂ blasting method the dry ice particles thus hit the contaminated surface where necessary and change their temperature in a flash. The surface temperature of the parts to be cleaned thereby drops by only 10 to 15°C. On the other hand the contaminants become brittle due to the sudden, strong, cooling effect and crack. Dr. Fuchs, Manager of the Research and Development Dept. of RELECTRONIC-REMECH GmbH in Ismaning, explained: "Dry ice crystals can thus penetrate these recesses and immediately transform to the gaseous state. The result of this is an explosion-like expansion of volume by about 500 times. The term used for this is sublimation. In this way the contamination is truly blasted off". The gaseous CO₂ leaks out and can be discharged into the air without any problem. It is then only necessary to remove the "blasted off" residue of the actual contamination.

Multiple applications

"The CO₂ blasting process is particularly suitable for the removal

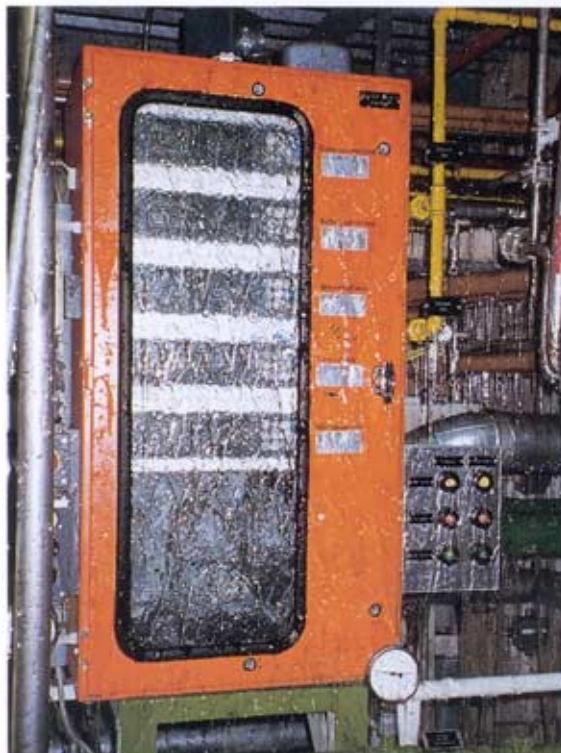


The starting point of the accident: The reactor vessel

of contaminants which harden and become brittle in cold temperatures. Such materials are in general paints and lacquers, greases, plastic foam material, silicon, rubber and - as in the above case - resins", said Dr. Fuchs. "These substances are extremely easy to remove with the dry ice blasting technique since they flake off readily".

Without this innovative technology, which proved itself fully in this case, the work of restoring the items damaged by the adhesive would have been distinctly more expensive. Because the plant and machinery

could be cleaned directly on site it was possible to significantly shorten the period of interruption to the operation. In contrast to other processes in which the plant first has to be dismantled there is hardly any need for production downtime when the CO₂ blasting method is used. The expensive disposal of the mixture of solvent and contaminants is dispensed with completely. This solution thus represents a genuine alternative to the well-known techniques for restoring the quality of damaged plant as demonstrated by the adhesive contamination incident described above.



A control cabinet covered in adhesive



Within a radius of 15 metres all plant parts were contaminated with adhesive.

Ship ahoy!

A fire on board a ship on the high seas brought the American subsidiary of RELECTRONIC-REMECH onto the scene. The freighter had to be fully operational again within 20 days.

An unusual restoration case had to be solved in the spring of this year by RELECTRONIC-REMECH INC. USA. A fire suddenly broke out on board the ocean-going freighter "Arctic Ocean" on its way from New York to South America. The ship was immediately instructed to put into the harbour at Charleston, South Carolina, in order that the necessary repairs could be carried out there. The Braswell Service Group, which is located there and is responsible for ship repairs, made immediate contact with RELECTRONIC-REMECH USA and asked for professional assistance. The time was extremely short because this unforeseen stopover represented a major business interruption for the shipping company - over and above the repair and material costs.

Like "sardines in a can"

The fire - four floors below deck - had resulted in the propulsion en-

gines and control cabinets being covered in a thick, greasy layer of soot. In a joint operation with the Braswell Group the specialists of RELECTRONIC-REMECH INC. (RRI) began the restoration work. Brad Shepherd, Consulting Engineer, and Tom Ney, Atlanta Branch Manager, first prepared a time and cost plan. As a result of this, eleven staff from the American company (RRI) and three restoration engineers from RELECTRONIC-REMECH UK were instructed to go to Charleston. The work then started with the "precision work". "It was really very cramped down below", smiled Brad Shepherd, "we felt like sardines in a can". In spite of this the team maintained the tight time schedule of only 20 days to decontaminate and restore the contaminated equipment items. Due to the swift action undertaken, the ship was able to continue its journey to South America without delay.



Thomas Reilly, Managing Director of RRI



Tom Ney, District Manager



A fire aboard this ship brought the RELECTRONIC-REMECH Inc. (RRI) onto the scene

RELECTRONIC-REMECH at your service

Australia

RELECTRONIC-REMECH Pty. Ltd.
(+61) 2-96 67 06 33

Austria

RELECTRONIC-REMECH
Ges.m.b.H.
(+43) 1-6 03 32 66-0

Belgium

RELECTRONIC-REMECH b.v.b.a.
(+32) 16-39 86 40

Canada

RELECTRONIC-REMECH, Inc.
(+1) 519-8 84 86 65

France

RELECTRONIC-REMECA S.A.R.L.
(+33) 1-48 13 91-00

Germany

RELECTRONIC-REMECH GmbH
(+49) 89-9 60 76-01

Hungary

RELECTRONIC HUNGARIA Kft.
(+36) 1-2 52 17 58

Israel

SHARIT Technologies Ltd.
(+972) 3-5 33 92 84

Italy

RELECTRONIC Italiana S.R.L.
(+39) 2-2 13 37 68

Malaysia

RELECTRONIC-REMECH Sdn Bhd
(+60) 3-5 19 14 36

Netherlands

RELECTRONIC B.V.
(+31) 70-3 33 26 07

New Zealand

RELECTRONIC-REMECH
New Zealand Ltd.
(+64) 9-5 73 01 58

Singapore/South East Asia

RELECTRONIC-REMECH Pty. Ltd.
(+65) 8 63-37 11

Slovakia

REELEKTRONIK s.r.o.
(+421) 7-5 66 96 92

Slovenia

RELECTRONIC d.o.o.
(+386) 64-22 40 14

South Africa

RELECTRONIC (SA) (Pty) Ltd.
(+27) 11-7 92 71 75

Sweden

SKEAB
(+46) 8-96 01 55

Switzerland

RELECTRONIC-REMECH AG
(+41) 56-4 42 59 50

United Kingdom

RELECTRONIC-REMECH Ltd.
(+44) 12 35-86 18 00

USA

RELECTRONIC-REMECH
(+1) 2 01-8 12-19 40

IMPRESSUM

Editor:
RELECTRONIC-REMECH GmbH
Oskar-Messter-Str. 8, D-85737 Ismaning
Phone 0 89 / 9 60 76-01
Fax 0 89 / 9 60 76-190

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FORUM VERLAG HERKERT GMBH
Mandichostraße 18, D-86504 Merching
Phone 0 82 33 / 3 81-0
Fax 0 82 33 / 3 81-212
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RELECTRONIC-REMECH ; Inc. - USA was established in 1982 in New Jersey and has since then grown nationwide to 53 employees with offices in Atlanta, Chicago and Los Angeles.

Their Remetronix Division performs installations of new medical equipment for Siemens throughout the U.S., but the core business of RELECTRONIC-REMECH USA is still the restoration of electrical equipment, electronics and machinery following damage from flood, fires and environmental contamination.

Trained technicians and consulting engineers travel throughout the U.S., Mexico and South America on restoral projects and consulting assignments for loss adjusters.