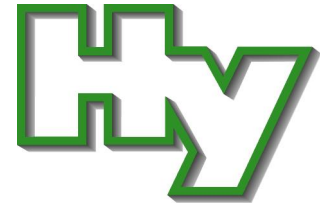


# Hygiene-Institut des Ruhrgebiets

Institut für Umwelthygiene und Toxikologie

Direktor: Prof. Dr. rer. nat. L. Dunemann

Sponsor: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlengebiet e.V.



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Unser Zeichen: W-273738e-16-Ho  
Contact: F. Wedke B. Eng.

Gelsenkirchen, 01.05.2016

## Test report

### Test of the cleanability of a heat exchanger

Applicant	Recair BV Vijzelweg 16 NL-5145 NK Waalwijk
Test order from	written order dated 16.01.2014
Test item	Recair RS 160 Enthalpy Heat Exchanger (Heat exchanger with plastic housing)
Size / colour of test item	Heat exchanger with white fins and turquoise plastic housing
Date sample received	20.01.2014
Test date	08.07.2014
Consultant	F.Wedke B. Eng.
Our reference	W-273738e-16-Ho
Scope	5 Pages

The results of our tests and evaluations apply to the items being tested under the legal provisions which were in force at the time the test. Without our express written permission to the contrary, this document may only be published or reproduced complete and unaltered.

### 1. Preliminary remarks

An assessment of the usability of components and equipment should also include their cleanability. Regulations (including VDI 6022) require that the materials and the individual components used in the construction must be able to be thoroughly cleaned. The aim of this test was to demonstrate that a component which is intended to be used in air conditioning systems can be cleaned.

### 2. Procedure

The cleanability test was carried out on the component (a heat exchanger from Recair BV) using a test dust type "Mineral flour IEC 60312 5.1.2.5 ISO 12103 AZ fine".

The heat exchanger was contaminated with the above-mentioned test dust, which was dusted over it on 07/08/2014. Some of the dust was rubbed into the fins with a cloth.

The heat exchanger was then treated according to the manufacturer's instructions. It was rinsed in a large sink using a shower fitting. After this, it was moistened with water mixed with a commercially available mild detergent. Then it was cleaned with both a brush and a paintbrush. The component was then repeatedly rinsed with clean water and dried (by repeatedly spinning it and using a cloth).

After cleaning, it was subjected to a visual examination.

### 3. Evaluation

The cleaning result was evaluated by visual inspection.

#### 4. Test results

Table 1: Test results

Component / Cleaning procedure	Result
Heat exchanger "RS160"	In the above test procedure, it was found that a satisfactory cleaning result could be obtained using the above cleaning procedure to clean the heat exchanger under the above conditions.

The test showed that a type "RS 160" heat exchanger contaminated with test dust could be cleaned using the procedure stipulated by the manufacturer. A satisfactory cleaning result was achieved.

We hope to have helped you with the information we have provided and are happy to answer any further questions which may arise.

Gelsenkirchen, 01.05.2016

Director of the Institute  
p.p.



(Dipl.-Ing. (FH) S. Horn)  
Section manager Ventilation Technology  
Department Water Hygiene and  
Environmental Microbiology



(F. Wedke B. Eng.)  
Consultant Ventilation Technology  
Department Water Hygiene and  
Environmental Microbiology

Attachment: Invoice

## 5. Photos

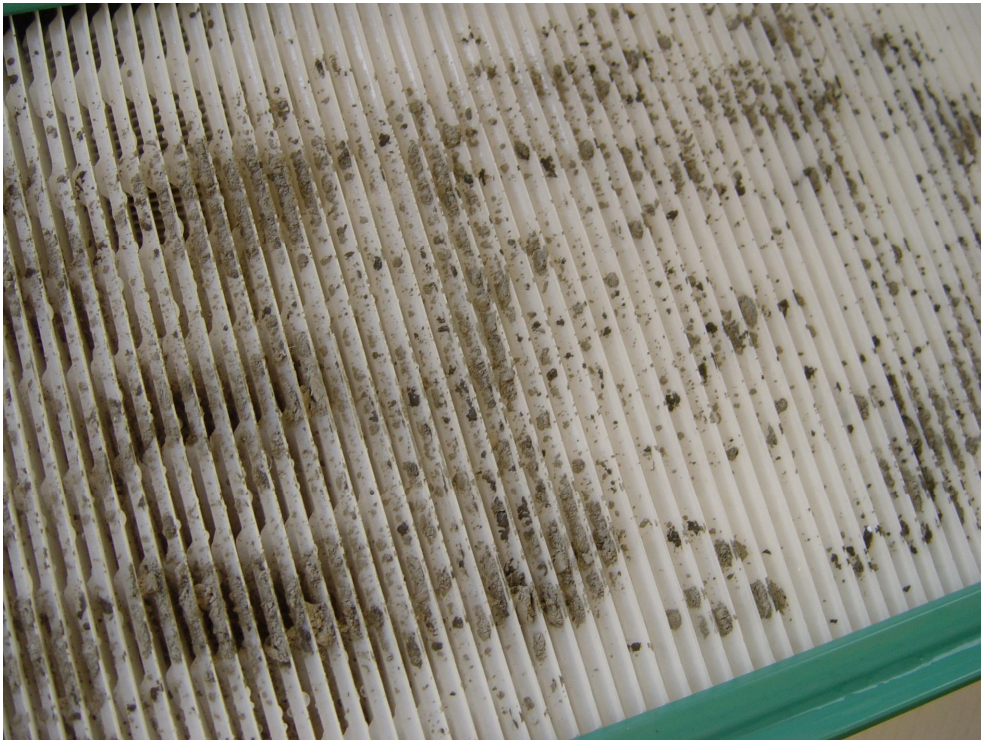


Figure 1: "RS 160" heat exchanger after contamination, before cleaning



Figure 2: "RS 160" heat exchanger after contamination, before cleaning

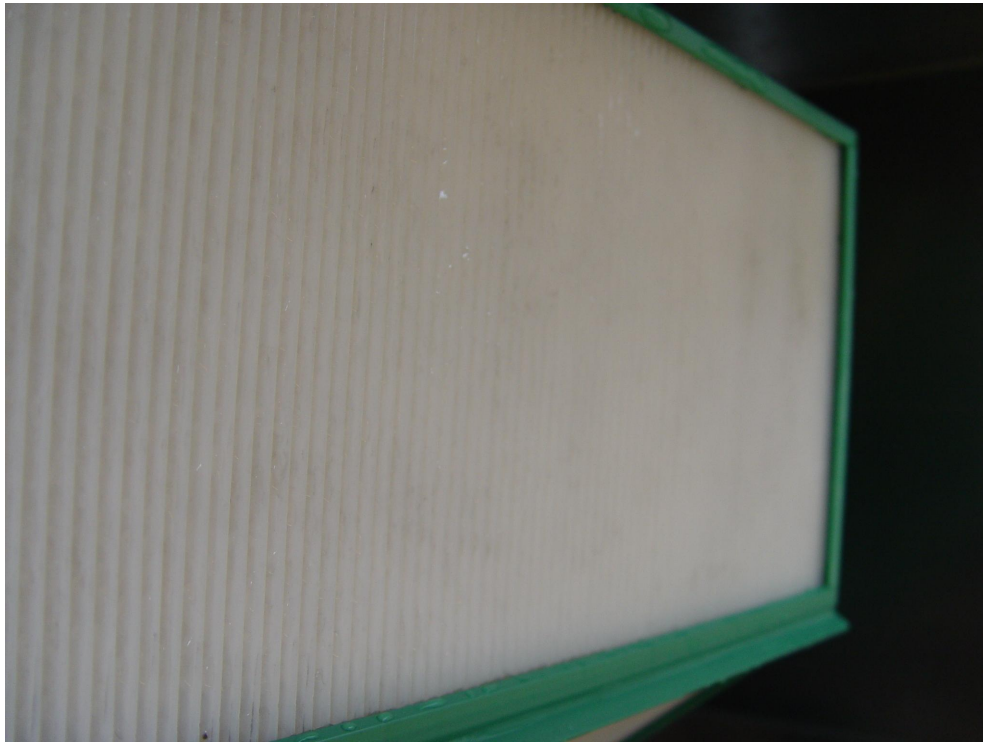


Figure 3: "RS 160" heat exchanger after the cleaning procedure

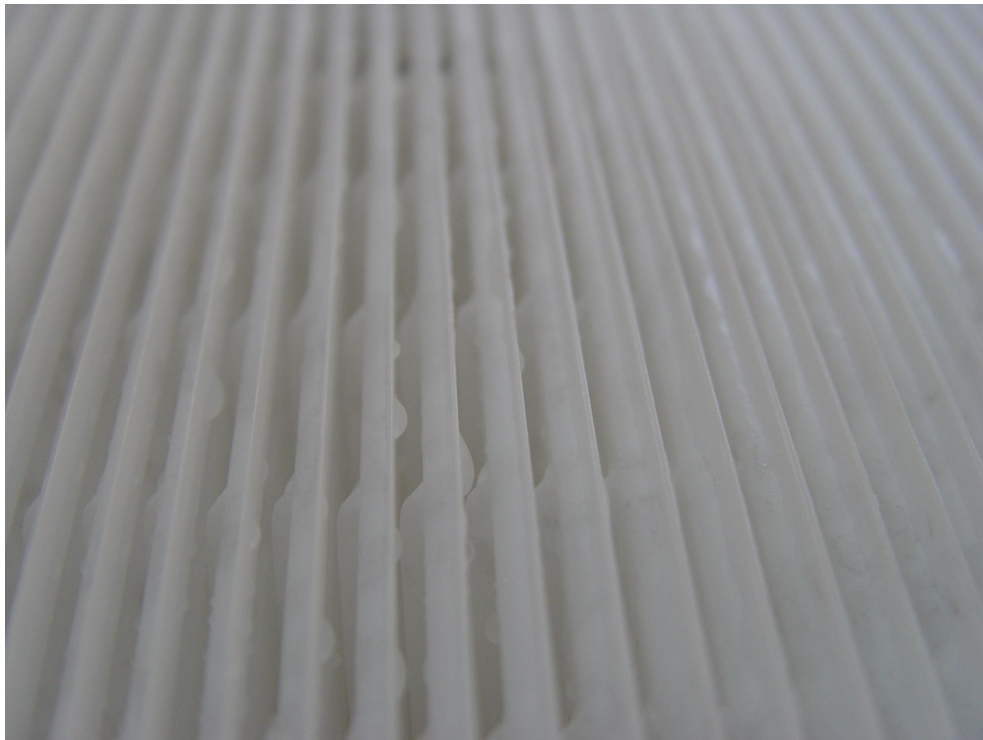


Figure 4: "RS 160" heat exchanger after the cleaning procedure