

# Workplace Quality News



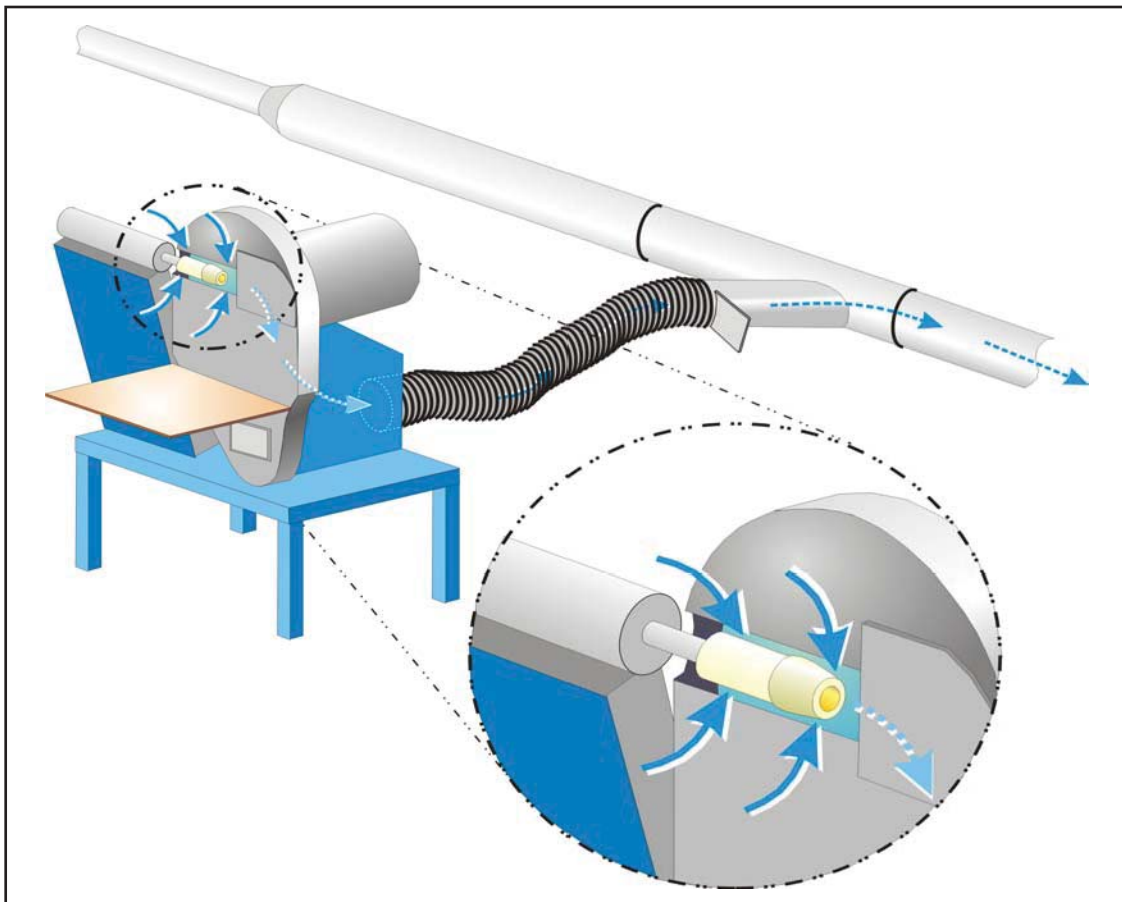
Number 18, July, 2003

## Advancements in Engineering Control Technology

*By Dean E. Venturin, Director, Health, Safety and Environment*

On November 5, 2002, the Unifrax Corporation in conjunction with the National Institute for Occupational Safety and Health (NIOSH), conducted a comprehensive field survey designed to evaluate the effectiveness of a unit operational engineering control design that was developed and in use at FIRELINE Inc. NIOSH is a nationally recognized federally funded research organization that falls under the authority of the U.S. Department of Health and Human Services. Two engineers from NIOSH participated in the study. Working under the auspices of the RCF industry's highly acclaimed Product Stewardship Program (PSP) for RCF, Unifrax was represented by Dean Venturin, Director of Health, Safety and Environment.

— *Engineering Control Technology* — continued on Page 2



*Sketch of Disc Sander with ventilation system details.*

Unifrax has had a long history of cooperative study and publication with NIOSH. FIRELINE, Inc., an RCF Vacuum Former located in Youngstown, Ohio, offered us the opportunity to perform a comprehensive engineering control, ventilation, and industrial hygiene study within an actual manufacturing environment. As NIOSH stated in their survey report, “The primary objective of the study was to determine the operating conditions and effectiveness of the engineering control which was designed and incorporated into a parts sanding operation.”

Mechanical sanders are commonly used in the Vacuum Forming industry and can be found in many other RCF-related industry segments as well. While sanding operations have the potential to generate significant employee exposures to airborne fibers, the results of this evaluation ended up far exceeding even our highest expectations in reducing exposure. NIOSH concluded that, “The use of a nearly completely enclosing shroud, with an

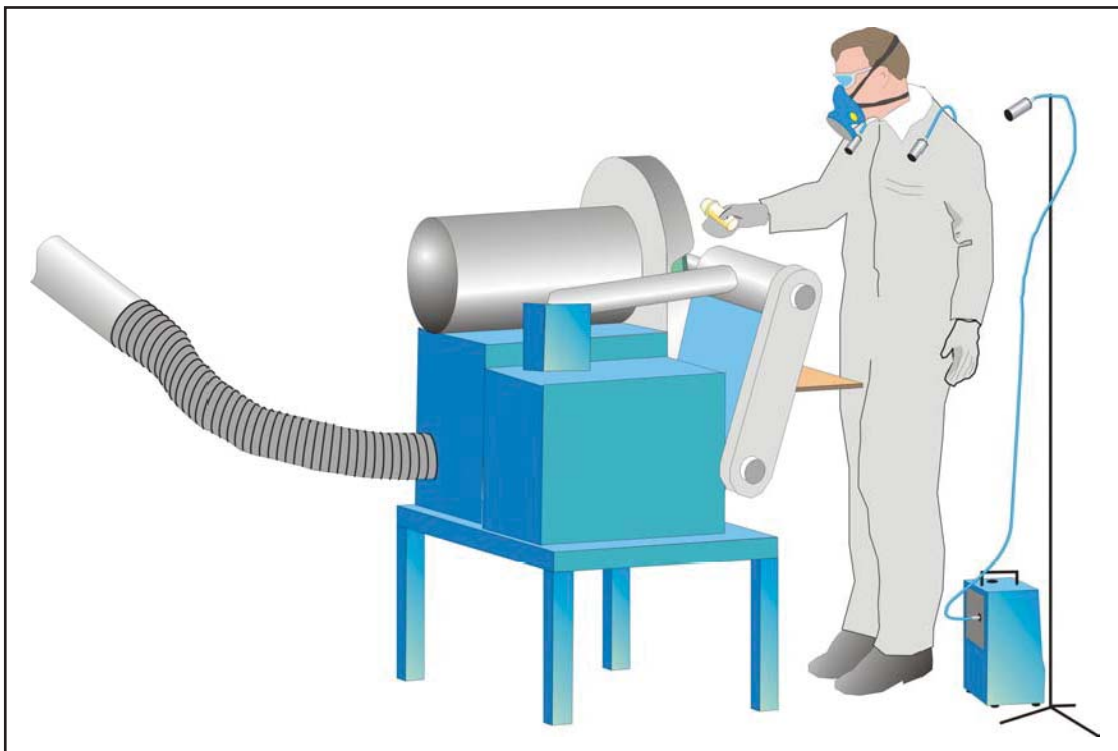
exhaust flow rate of approximately 1000 cfm, reduced the operator exposure by 99%. Engineering controls can be manufactured and installed on standard disc sanders and can significantly reduce operator exposure by as much as two orders of magnitude.”

FIRELINE followed the guidance offered by Unifrax and successfully applied it to their specific unit operation in a highly effective manner. In so doing, FIRELINE has established its company as an industry leader, taking a proactive approach to health and safety and thereby earning the respect and admiration of their employees and the research team that conducted the survey. In a recent letter to Unifrax, Barbara Burley, V.P. Operations, stated that, “FIRELINE chose its bag house dust collectors based on your recommendations . . . We used the concepts you presented in designing our sanding and mixing dust collection processes.” Barbara went on to say, “Our Company is not large enough to employ engineers just to do the

research necessary to determine what would be the most effective way to set up our dust collection process, but with your research already done, all we had to do was apply the principles to our own operation.”

The results of this field survey demonstrate that properly designed, operated, and maintained engineering controls can be applied to this type of operation in a highly effective manner. By following the guidance offered by the Unifrax Corporation through the RCF industry’s product stewardship program, RCF users could do a great deal to prevent employee exposures to airborne fiber in a way that is not cost prohibitive.

For more information on engineering control technologies designed specifically for RCF operations, contact the Unifrax Corporation through the Health Hotline at (800) 322-2293 or visit the Unifrax web site at [Unifrax.com](http://Unifrax.com).



*Sketch of worker and air sampler orientation during trial runs.*



Disc sander with shroud and un-sanded ceramic sleeve part.

## New Customer Self-Monitoring Program

By Greg W. Drumm, Sr. Environmental Analyst

As the Product Stewardship Program (PSP) for refractory ceramic fiber (RCF) has grown and evolved over the past two decades, many of our customers have shown a strong commitment to reducing potential exposures to airborne RCF.

Corresponding with this commitment to exposure reduction, many customers have become much more knowledgeable in their understanding of airborne fiber exposure issues as well as much more sophisticated in their approach to fiber reduction efforts.

One of the ways in which this increased sophistication and knowledge has become evident is that customers are increasingly showing an interest in learning how to collect airborne fiber samples.

To fill this growing interest, Unifrax and the Refractory Ceramic Fibers Coalition (RCFC) have developed the *Customer Self-Monitoring Program*, which describes the “how-to” basics of airborne fiber sampling. The *Customer Self-Monitoring Program* specifically includes a discussion on basic equipment and material requirements, airborne fiber sampling basics, NIOSH 7400B sampling method, and examples of sample data collection and laboratory forms.

The program is currently available electronically in Adobe (pdf) format at the RCFC website ([www.RCFC.net](http://www.RCFC.net)).

The benefits associated with having the ability to self-monitor may vary from facility to facility, but might include anyone of the following:

- Follow-up/supplemental monitoring after a PSP visit from Unifrax or RCFC member company;
- Assessment of engineering controls or work practice modifications to reduce potential fiber exposures over several days;
- “On-demand” ability to collect samples on very short notice;
- Development of an exposure database which may serve numerous purposes;
- Assessment of unique or new job tasks or operations where there may not be exposure data; and
- Confirmation of appropriate personal protective equipment.

It is also appropriate to note that Unifrax is not looking to have this self-monitoring replace or reduce our outreach efforts to assist with monitoring in any manner. The self-monitoring program should be considered as a supplement to our overall PSP efforts as well as another tool with which we can collectively continue to reduce airborne fiber exposures.

If there are any questions regarding the Customer Self-Monitoring Program or other RCF-related health issues, please do not hesitate to contact us through our PSP Health Hotline at (800-322-2293).

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## **Workplace Quality News Information Guide**

### **NUMBER 18**

(Order Code: CHQ-wqn-18)

- Advancements in Engineering Control Technology
- New Customer Self-Monitoring Program

### **NUMBER 17**

(Order Code: CHQ-wqn-17)

- 2002 American Industrial Hygiene Conference and Exposition
- Biopersistence Certificates Available on [www.unifrax.com](http://www.unifrax.com)
- A New CAS Number for Alkaline Earth Silicate wools

### **NUMBER 16**

(Order Code: CHQ-wqn-16)

- OSHA Signs Letter of Support for RCFC's PSP
- No Change in IARC Carcinogen Classification
- Fiber Ranges Chart

### **NUMBER 15**

(Order Code: CHQ-wqn-15)

- FoamFrax™ Insulation
- New Magnesium Silicate Fiber "Isofrax™"
- Health and Safety Resources

### **NUMBER 14**

(Order Code: Amh-wqn-14)

- ACGIH Adopts RCF TLV
- Fire Protection Applications
- Fiber Waste Management

**Anyone interested in Issues 1-13, call the PSP Hotline at 1-800-322-2293**



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*PSP Hotline: 1-800-322-2293*

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