

ISRP 1999 abstract

Presenter/author	Title	Abstract
<p>Yamada, H. <i>Shigematsu Works Company, Ltd. 267 Yashica Iwatsuki 339- 0046 Japan</i></p>	<p>Ozone Removing Ability of Washable Filters after Repeatedly Use and Washing</p>	<p>We have studied the cleaning method of our water-repellent mechanical filters, and we proved that such type of filters can be cleaned repeatedly. The filters are expected to be used for welding operation, therefore, activated carbon fibers are blended to remove toxic ozone together with welding particulate fumes. In order to examine the ozone removing ability of the filters under the repetition of cleaning, we conducted the two types of test. One is the measurement of service life against ozone after any times of welding fumes loading and cleaning. The other is the measurement of ozone penetration concentration against various levels of ozone exposure and cleaning repeatedly. As a result of the first test, we observed that the service life decreases with the cleaning repetition, however, the service life after the initial cleaning is almost the same as new. It means that the degradation is not caused by the cleaning, but by the ozone exposure. The second test revealed that the ozone penetration was observed in case of 150 ppm-min ozone exposure, and the penetration concentration was lower than 0.05 ppm for 11 times ozone exposure. In case of ozone exposure ranging from 6 ppm-min to 30 ppm-min, the ozone penetration was not observed. We conclude that the filters can be used 11 times by cleaning for MIG and TIG welding which are thought to generate high concentration of ozone.</p>