



### GREENGUARD® CERTIFIED

RJF International has always been a leader in providing environmentally safe vinyl wallcovering products that our customers can specify with confidence on their projects. We were the first vinyl wallcovering manufacturer to begin work on perfecting the use of water-based inks in our processes. This change to water-based inks and coatings significantly reduced the odors and emissions that were typical of wallcoverings that had been manufactured using solvent-based inks. We also led the industry in the elimination of heavy-metal cadmium from our products. We have now taken further steps to lower emissions from our products. Using new technology, we reformulated our inks, coatings and even the vinyl formulation itself, to use raw materials that contain less VOC's. These changes allow us to manufacture vinyl wallcovering products, which are lower emitting and practically odor free.

These low emission wallcovering products have passed a series of rigorous emissions tests and are certified by the GREENGUARD® Environmental Institute as being low emitting and having a minimal impact on indoor air quality. The GREENGUARD® Environmental Institute is an independent, non-profit organization that oversees the GREENGUARD® Certification Program, including the establishment of acceptable standards for indoor products and protocols. To obtain GREENGUARD® Certification, a variety of our wallcovering products were tested for emission potential. The results of those tests were then evaluated against the following standards:

#### State of Washington

- Formaldehyde - less than 0.05ppm
- TVOC - less than 0.50 mg/m<sup>3</sup>
- Meets 1/10th TLV for emitting VOC's
- Meets any regulated primary or secondary National Ambient Air Quality Standard (NAAQS)

### KOROSEAL WALLCOVERINGS

#### U.S. Environmental Protection Agency (EPA)

- TVOC - less than 0.50 mg/m<sup>3</sup>
- Formaldehyde - less than 0.05 ppm
- Total Aldehydes - less than 0.10 ppm
- 4-phenylcyclohexene - less than 0.0065 mg/m<sup>3</sup>

#### U.S. Occupational Safety & Health Administration (OHSA)

- Formaldehyde - less than 0.10 ppm

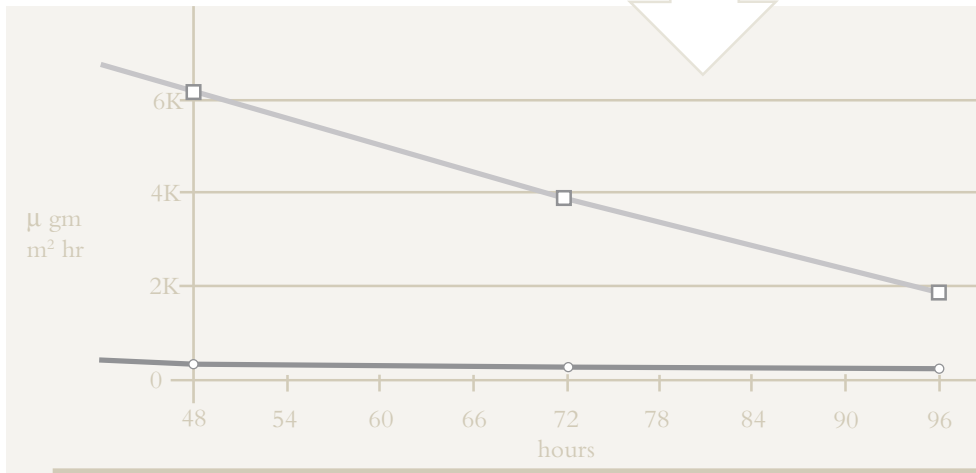
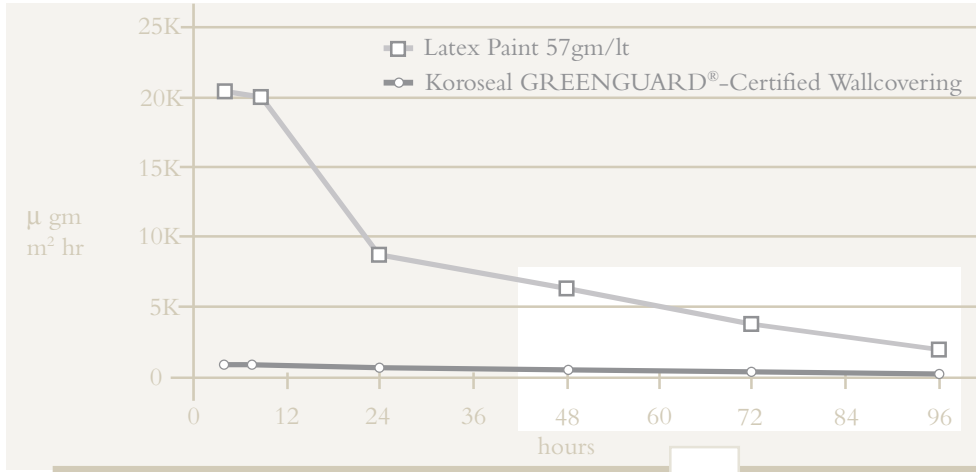
#### World Health Organization (WHO)

- Formaldehyde - less than 0.10 ppm

Samples of Koroseal GREENGUARD®-Certified wallcovering and a name-brand lowVOC latex paint (VOC = 57gm/lit) were tested at an independent laboratory. VOC emissions from both products were measured at 4, 8, 24, 72 and 96 hours. Not only do these Koroseal GREENGUARD®-Certified wallcoverings meet the above standards, their emissions factor during the first hours and days after installation were significantly less than the lowVOC latex paint. The emissions factors for the two products are listed and plotted below.

KOROSEAL WALLCOVERINGS

Emissions Factor



Elapse Time*	Latex Paint Emissions**	GREENGUARD®-Certified Wallcovering Emissions**	Improvement Factor
4	20,300	900	23
8	19,900	891	22
24	8,890	535	17
48	6,070	322	19
72	3,910	292	13
96	1,920	212	9

\*hours  
\*\*µ gm m² hr

As you can see by the above charts, four hours after installation, the VOC emissions from the Koroseal GREENGUARD®-Certified wallcovering are less than 1/20th of the emissions from the low VOC latex paint. Even after 96 hours when the latex paint has lost a large portion of its VOC's, the emissions from the wallcovering is still less than 1/9th of the emissions of the paint. Not only will this low level of emissions

from our wallcovering result in less indoor air pollution, the reduction in odor and potential irritation problems is a plus for the occupants of newly decorated or renovated spaces. Builders, architects, interior designers, specifying professionals and customers can be confident that they are creating better interior environments when they use Koroseal GREENGUARD®-Certified wallcoverings.

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