

## **VACUUM CLEANERS (\*CRI Green Label Standard/Testing Protocols)**

For testing purposes, a designated vacuum cleaner unit type is obtained at random from a distributor or retailer. The vacuum is submitted to an independent laboratory and tested in accordance with the following protocols.

**Soil Removal:** The soil removal test protocol requires that the vacuum cleaner must remove in 4 passes a satisfactory quantity of soil from standard test carpets.

The test protocol is "Standard Laboratory Test Practice For Evaluation of Carpet Solid Particulate Removal Effectiveness of Residential/Commercial and Central Vacuum Cleaners" and is available at [www.carpet-rug.com/technical\\_bulletins/0311\\_vacuum\\_soil\\_removal.pdf](http://www.carpet-rug.com/technical_bulletins/0311_vacuum_soil_removal.pdf).

**Dust Containment:** This test evaluates the total amount of dust particles released into the surrounding air by the action of the brush rolls, filtration bag, other filters, and any air leaks from the overall vacuum cleaner system. This protocol requires that a vacuum cleaner will release into the surrounding environment no more than 100 micrograms of dust particles per cubic meter of air, well below levels stated in the National Ambient Air Quality Standards.

The test protocol is "Standard Laboratory Practice For Quantifying Respirable Particulate Emissions Generated by Residential/Commercial Vacuums and Central Vacuum Systems" and is available at [www.carpet-rug.com/technical\\_bulletins/0311\\_vacuum\\_emissions\\_test.pdf](http://www.carpet-rug.com/technical_bulletins/0311_vacuum_emissions_test.pdf).

**Appearance Retention:** The test protocol for appearance retention requires that the vacuum cleaner should affect the surface appearance of the carpet no more than a one step change, based on one year of normal vacuum use.

The test protocol is "Standard Laboratory Test Practice For Measurement Of Surface Appearance Change Of Textile Floor Covering As A Result Of The Vacuuming Process" and is available at [www.carpet-rug.com/technical\\_bulletins/0311\\_vacuum\\_appearance\\_change.pdf](http://www.carpet-rug.com/technical_bulletins/0311_vacuum_appearance_change.pdf).

**\*Refer to Pages 2 and 3 of this Appendix for Information on the New July 2007 Carpet & Rug Institute Seal of Approval/Green Label (CRI SOA/GL) Vacuum Standard/Testing Protocols.**



## **Vacuums (Commercial Customers) (CRI \*SOA/GL Standard/Testing Protocols)**

### **Tough standards for soil removal and indoor air quality**

CRI combines the indoor air quality protection of its Green Label vacuum program with enhanced cleaning standards of its Seal of Approval programs to identify even better performing vacuum cleaners than the previous program. Under the **\*Seal of Approval/Green Label vacuum program**, manufacturers must meet higher performance standards and are rewarded with **Gold, Silver** or **Bronze** ratings. This program tests two general categories of vacuums:

- General-purpose vacuums approved for use on all conventional carpet styles
- Vacuums specifically approved for use on carpet with a low pile, or surface texture, measuring approximately a quarter inch or less

**To earn the CRI Seal of Approval/Green Label certification, vacuums must pass the following independent laboratory tests:**


- **Soil removal** - CRI uses NASA-enhanced x-ray fluorescence technology instead of traditional gravimetric testing to measure the precise amount of soil removed from carpet - either 30 oz/sy commercial cut pile carpet or 30 oz/sy loop pile carpet.
- **Dust containment** - The vacuum must not release more than 100 micrograms of dust particles per cubic meter of air, keeping dirt and dust locked tight in the vacuum - not escaping back into the air where it can be breathed.
- **Carpet fiber retention** - The vacuum must not affect the texture of the commercial cut pile carpet (900 passes with sample rotated every 50 passes) more than a one-step change based on one year of normal vacuum use.

### **Vacuum your way to cleaner carpet and cleaner air**

High-performance vacuum cleaners have a significant impact on improved indoor air quality (IAQ). At the same time, vacuums that effectively remove and contain soil while keeping the carpet looking good will help carpet last longer. Ultimately, better performing vacuums provide a greater return on your investment and ensure a healthier indoor environment.

Use of CRI Seal of Approval/Green Label program assures proper and easy carpet maintenance. This important testing program has raised the performance bar for all vacuum cleaners on the market, resulting in cleaner, longer-lasting carpet and improved indoor air quality. So look for the Seal of Approval/Green Label logo or label on packaging, displays and on the machine itself.

**Manufacturers under the current Green Label vacuum program will retain certification for their machines until 2010, at which time the program will be phased out.**

If you want to learn how x-ray fluorescence was adapted for space flight and carpet cleaning, [download this PDF](#)  (PDF 50 KB).



## SOA/GL VACUUM CLEANER (VC) PROGRAM

### 1. SOA/GL Vacuum Cleaners to be listed on the CRI website:

- Vacuum Cleaners Certified for Commercial Use

### 2. Commercial Use VC Program:

- Performance Standard:

	<u>Soil Removal</u>	<u>Dust Containment</u>
<b>Bronze</b>	40-49%	$\leq 100 \mu\text{g}/\text{m}^3$ of dust particles
<b>Silver</b>	50-54%	$\leq 100 \mu\text{g}/\text{m}^3$ of dust particles
<b>Gold</b>	$\geq 55\%$	$\leq 35 \mu\text{g}/\text{m}^3$ of dust particles

- Texture Protection Standard: The vacuum should not affect the texture appearance of the carpet more than a one-step change based on one year of normal vacuum use.
- XRF Carpet Test Samples:
  1. 30 oz/sy commercial loop pile carpet.
  2. 30 oz/sy commercial cut pile carpet.

### Notes:

- A Vacuum (VC) must comply with the Texture Protection Standard before being considered for a **Bronze**, or **Silver**, or **Gold** SOA/GL certification.
- A Vacuum (VC) must comply with both the corresponding Soil Removal Standard and the Dust Containment Standard before being considered for a **Bronze**, or **Silver**, or **Gold** SOA/GL certification.

## Certified Vacuum Cleaners

<b>Number (%)</b>		
345		Total vacuums currently CRI certified
314	(91.0)	Certified Under Old "Green Label" Standard
31	(9.0)	Certified Under New Seal of Approval/ Green Label Standard
14	(45.2)	Bronze
13	(41.9)	Silver
4	(12.9)	Gold

If the relative proportion of Bronze, Silver and Gold certifications remain stable and 300 vacuum cleaners remain certified, then the following would be the number of available vacuum cleaners in each classification:

<b>Number</b>	<b>Rating</b>
135	Bronze
126	Silver
39	Gold