

ATAS INTERNATIONAL, INC.

Total Solar Reflectance and Thermal Emittance Measured on ATAS Materials

Revised 7/21/03

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| Category | ATAS No. | Name | Description | Total Solar Reflectance (%) | | Thermal Emittance | Meets Energy Star* | | | Listed by CRRC |
|----------|----------|--------------------|-------------|-----------------------------|--------|-------------------|--------------------|-----------|-----------------------|----------------|
| | | | | Initial | 3-Year | | Steep Slope | Low Slope | Listed by Energy Star | |
| Painted | 629 | Classic Bronze | Low Gloss | 7.5 | --- | ** | | | | |
| Painted | 611 | Forest Green | Low Gloss | 14.0 | --- | ** | | | | |
| Painted | Special | Forest Green (CR) | Low Gloss | 27.0 | --- | ** | Yes*** | | | |
| Painted | 608 | Mission Red | Low Gloss | 32.7 | --- | ** | Yes*** | | | |
| Painted | 616 | Rocky Grey | Low Gloss | 15.3 | --- | ** | | | | |
| Painted | 609 | Sierra Tan | Low Gloss | 32.9 | --- | ** | Yes*** | | | |
| Painted | 620 | Slate Grey | Low Gloss | 20.7 | --- | ** | | | | |
| Painted | 24 | Antique Patina | Std. Gloss | | | | | | | |
| Painted | 10 | Ascot White | Std. Gloss | 60.0 | 60.0 | 0.89 | Yes | | | |
| Painted | 02 | Black | Std. Gloss | 6.0 | --- | ** | | | | |
| Painted | 26 | Bone White | Std. Gloss | 69.0 | --- | ** | Yes*** | Yes*** | | |
| Painted | 25 | Boysenberry | Std. Gloss | 14.0 | 14.0 | 0.90 | | | | |
| Painted | 17 | Brite Red | Std. Gloss | 37.4 | --- | --- | Yes*** | | | |
| Painted | 04 | Chocolate Brown | Std. Gloss | 10.0 | 10.0 | 0.90 | | | | |
| Painted | 01 | Classic Bronze | Std. Gloss | 8.7 | --- | ** | | | | |
| Painted | 05 | Concord Cream | Std. Gloss | 55.0 | 55.0 | 0.89 | Yes | | | |
| Painted | 23 | Coppertone | Std. Gloss | 49.3 | --- | ** | Yes*** | | | |
| Painted | Special | CR White (special) | Std. Gloss | 70.0 | --- | ** | Yes*** | Yes*** | | Yes |
| Painted | 13 | Dove Grey | Std. Gloss | 31.0 | 31.0 | 0.89 | Yes | | | |
| Painted | 11 | Forest Green | Std. Gloss | 15.8 | --- | ** | | | | |
| Painted | Special | Forest Green (CR) | Std. Gloss | 27.0 | --- | ** | Yes*** | | | |
| Painted | 27 | Hartford Green | Std. Gloss | 10.0 | 10.0 | 0.88 | | | | |
| Painted | 30 | Hemlock Green | Std. Gloss | 18.0 | 18.0 | --- | | | | |
| Painted | 03 | Medium Bronze | Std. Gloss | 11.0 | 11.0 | 0.89 | | | | |
| Painted | 22 | Mint Green | Std. Gloss | 29.0 | 29.0 | 0.89 | Yes | | | |
| Painted | 08 | Mission Red | Std. Gloss | 31.5 | --- | ** | Yes*** | | | |
| Painted | 12 | Patina Green | Std. Gloss | 23.0 | 23.0 | 0.88 | | | | |
| Painted | 15 | Rawhide | Std. Gloss | 43.0 | 43.0 | 0.89 | Yes | | | |
| Painted | 07 | Redwood | Std. Gloss | 20.9 | --- | ** | | | | |
| Painted | 18 | Regal Blue | Std. Gloss | 15.0 | 15.0 | --- | | | | |
| Painted | 16 | Rocky Grey | Std. Gloss | 14.6 | --- | ** | | | | |

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|----------------------|----------|---|-------------|-----------------------------|--------|-------------------|--------------------|-----------|-----------------------|----------------|
| | | | | Initial | 3-Year | | Steep Slope | Low Slope | Listed by Energy Star | |
| Painted | 06 | Sandstone | Std. Gloss | 46.0 | 46.0 | 0.88 | Yes | | | |
| Painted | 14 | Siam Blue | Std. Gloss | 31.0 | 31.0 | 0.88 | Yes | | | |
| Painted | 09 | Sierra Tan | Std. Gloss | 34.7 | --- | ** | Yes*** | | | |
| Painted | 28 | Silversmith | Std. Gloss | 47.0 | 47.0 | --- | Yes | | | |
| Painted | 21 | Slate Blue | Std. Gloss | 20.0 | 20.0 | 0.90 | | | | |
| Painted | 20 | Slate Grey | Std. Gloss | 21.4 | --- | ** | | | | |
| Painted | 19 | Teal | Std. Gloss | 21.0 | 21.0 | 0.89 | | | | |
| Unpainted | 797 | 55% Al-Zn Coated Steel with Acrylic Coating | --- | 68.0 | 57.0 | 0.08 | Yes | Yes | Yes | |
| Unpainted | | Anthra Zinc Pre-Weathered | --- | 6.0 | --- | 0.64 | | | | |
| Unpainted | | Quartz Zinc Pre-Weathered | --- | 20.0 | --- | 0.33 | | | | |
| Unpainted (anodized) | 471 | Dark Bronze | --- | 15.0 | --- | 0.77 | | | | |

* Energy Star Requirements

Steep Slope 0.25 initial; 0.15 after 3 years

Low Slope 0.65 initial; 0.50 after 3 years

** Manufacturer indicated that thermal emittance readings are generally between 0.80 and 0.85 for all organic coatings regardless of pigmentation and/or resin chemistry.

*** Meets Energy Star requirements based on initial reflectance only. No data available after 3 years.