Technical Bulletin:
Track A - HVAC Grading by Rater Available for Use with ENERGY STAR Multifamily New Construction Program!

October 5, 2021

Track A - HVAC Grading by Rater is a collection of requirements built upon ANSI / RESNET / ACCA / ICC Standard 310 that can be used to satisfy many of the HVAC design and functional testing components of the ENERGY STAR Multifamily New Construction (MFNC) program.

And now, with the release of updates for Ekotrope, EnergyGauge USA, and REM/Rate, Track A - HVAC Grading by Rater, can be used in the ERI Path to help meet the ENERGY STAR MFNC Energy Rating Index (ERI) Target.

While this new track is available for use, partners are free to continue using the approach that has been available since the MFNC program launched in 2019, which was recently renamed Track B - HVAC Testing by Functional Testing Agent.

Key Benefits of Track A - HVAC Grading by Rater

HVAC grading makes it easier to certify ENERGY STAR MFNC buildings:

• Integrates most ENERGY STAR HVAC requirements into an ERI
• For systems that are eligible for grading, a credentialed HVAC contractor or a Functional Testing Agent is not required
• Rewards proper installation with ERI points and helps meet the 45L tax credit

How to Use Track A - HVAC Grading by Rater

1. Complete the mandatory training and assessment required by your Home Certification Organization (HCO) or your Multifamily Review Organization (MRO).

For example, EPA’s currently-recognized HCO, RESNET, requires that Raters and RFIs complete online training and an evaluation by a field candidate assessor prior to using ANSI / RESNET / ACCA / ICC Standard 310. In the future, other HCOs may have different requirements. Your MRO may also require this training or have their own requirements.

2. Identify the systems that are eligible to use Track A – HVAC Grading by Rater.

ANSI / RESNET / ACCA / ICC Standard 310 is applicable to unitary HVAC Systems including air conditioners and heat pumps up to 65 kBtuh and furnaces up to 125 kBtuh in dwelling units that have their own HVAC system separate from other units. For the MFNC program, HVAC grading may also be completed on these systems where they serve a single common space. Systems that do not meet the
sizing limits or systems that serve multiple dwelling units or common spaces are not eligible for Track A – HVAC Grading by Rater.


One required component is the collection of a design report. RESNET has created an ANSI / RESNET / ACCA / ICC Standard 310 HVAC Design Report template, available here under “Calculators And Tools”. This report has been integrated into Wrightsoft and EnergyGauge USA, and can be completed with the press of a button while performing residential load calculations with these software programs. Efforts are underway to integrate it into RHVAC, as well.

It’s recommended that Raters wait to use this standard until this integration is complete for the program(s) being used by the HVAC designers they work. However, in the interim, Raters can have HVAC designers complete this report manually.

RESNET has also created an ANSI / RESNET / ACCA / ICC Standard 310 Data Tool, also available here under “Calculators And Tools,” to assist with the design review and field tasks required by the standard.

In addition to following ANSI / RESNET / ACCA / ICC Standard 310 over the course of design and construction, there are three additional tasks required when choosing Track A - HVAC Grading by Rater:
4. Collect the ENERGY STAR MFNC HVAC Design Supplement.

While most of the design documentation requirements are satisfied by the new ANSI / RESNET / ACCA / ICC Standard 310 HVAC Design Report, ENERGY STAR requires several additional design elements related to the ventilation system and HVAC sizing. These are reported on the design report supplement.

This template has been created and will be integrated into HVAC design programs, as well. Wrightsoft is targeting Q4 2021, EnergyGauge USA is targeting Q2 2022, and RHVAC is assessing their timeline. It’s recommended that Raters wait to use the standard until this integration is complete for the program(s) being used by the designers they work with. However, Raters can have HVAC designers complete this supplement manually or have them complete the current ENERGY STAR National HVAC Design Report, which contains the same information.

For Multifamily projects, if all dwelling unit systems are using HVAC grading, there is an abbreviated version of the MFNC Design Report to just cover central hydronic distribution requirements (such as water-loop heat pumps on a shared loop), central ventilation requirements, and common space systems that are not using HVAC Grading. This is the “National HVAC Design Supplement to Std. 310 for Common Spaces & Central Systems,” pictured above. If not all dwelling-unit systems are graded, project teams should fill out the National MFNC HVAC Design Report for any systems that are not covered by HVAC grading.
5. Complete the first page of the ENERGY STAR MFNC National Rater Design Review Checklist.

Most design review requirements for ENERGY STAR will be satisfied by the ANSI / RESNET / ACCA / ICC Standard 310 design review. The two additional requirements for ENERGY STAR are shown in the highlighted fields below. They simply require the Rater to verify that all required documentation was collected and completed and that the cooling sizing limits have been met.

6. Complete Sections 5a.1 through 5a.3 of the ENERGY STAR MFNC National Rater Field Checklist.

While any airflow, watt draw, and refrigerant grade is acceptable for an energy rating, these items specify minimum grades that must be achieved for ENERGY STAR certification.
7. Optional: Rater complete Section 5 of the ENERGY STAR MFNC HVAC Functional Testing Checklist.

While not required for Track A, a Functional Testing Agent or a Rater must still complete Section 5 of the FT Checklist, which is the functional testing of the graded HVAC system. A Rater can complete this verification in concert with the HVAC grading tests and then a Functional Testing Agent is not needed for the systems that are undergoing HVAC grading.

Overview of Track A vs. Track B within ENERGY STAR

Below is a summary of how Track A and Track B compare in the Multifamily New Construction program. To reiterate, Track B is what has existed in the MFNC program to date.

<table>
<thead>
<tr>
<th>Multifamily New Construction</th>
<th>Track A: HVAC Grading by Rater</th>
<th>Track B: HVAC Testing by FT Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVAC designer completes..</td>
<td>Std. 310 Design Report + ENERGY STAR Supplements(s)</td>
<td>.ENERGY STAR HVAC Design Report</td>
</tr>
<tr>
<td>Rater reviews design report per..</td>
<td>Std. 310 Data Tool + ENERGY STAR Design Review Checklist</td>
<td>.ENERGY STAR Design Review Checklist</td>
</tr>
<tr>
<td>Rater verifies..</td>
<td>Functional Testing Agent is credentialed, for any central / commercial equipment</td>
<td>Functional Testing Agent is credentialed</td>
</tr>
<tr>
<td>HVAC contractor installs..</td>
<td>equipment</td>
<td>equipment &amp; FT Agent completes Functional Testing Checklist</td>
</tr>
<tr>
<td>Rater verifies..</td>
<td>Grade I total duct leakage, Grade I / II blower fan airflow, Grade I / II blower fan watt draw, Grade I refrigerant charge when the non-invasive method is able to be used Optional: Functional Testing</td>
<td>total duct leakage limits, static pressure, required to collect FT Checklist if FT Agent is not a credentialed contractor Optional: Functional Testing</td>
</tr>
</tbody>
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Additional Resources

Use ENERGY STAR's HVAC grading factsheets: Educate your stakeholders using targeted factsheets. The following factsheets are available:
- MFNC HVAC Grading Factsheet: Builders
- MFNC HVAC Grading Factsheet: Raters
- MFNC HVAC Grading Factsheet: HVAC contractors
- MFNC HVAC Grading Factsheet: HVAC designers

Watch the "ENERGY STAR + HVAC Grading" webinar: Review this session held on 11/5/2020. Contact us at energystarhomes@energystar.gov to request a recording.


Complete Training: For Raters for whom RESNET is their HCO, complete the required training modules through the RESNET Portal.

View Instructional Videos: View optional instructional videos on measuring airflow, not prepared by EPA, on The
Energy Conservatory’s HVAC Air Flow and Pressure Measurement Training page.

View past ENERGY STAR Residential New Construction technical bulletins.

Best regards,
The ENERGY STAR Residential New Construction team
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