<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>ASSA ABLOY</th>
</tr>
</thead>
</table>
| Contact information of organizational representative responsible for implementation and success of action plan | Amy Musanti  
*Director of Sustainable Building Solutions*  
Amy.Musanti@assaabloy.com  
(203) 603-5919 |
| Product Name          | Trio-E / 777E Energy Efficient Steel Stiffened Door |
| Product Line(s)/Series Covered by the Action Plan | ASSA ABLOY Door Group (AADG) |
| Product Description   | The Trio-E / 777E Door paired with the Mercury Thermal Break Frame is energy efficient, aesthetic design, steel stiffened for strength, but has achieved an operable U-Factor of 0.36 and Air Infiltration rating $\leq 0.10$ CFM / sq ft which is better than most other steel stiffened doors currently available on the market today. |
| Type of material ingredient screening i.e. hazard assessment platform used for the material ingredient disclosure report | AADG TrioE / 777E Door has provided a publicly available inventory meeting the requirements of Option 1 using the online Health Product Declaration (HPD) Collaborative Builder platform. |
| Assessment threshold for Action Plan | ☒ 1,000 ppm  
☐ 100 ppm |
| Link to publicly available complete inventory with ingredients identified by name, CAS/EC number where applicable, and relevant information for proprietary ingredients per compliance to Material Ingredient Reporting Option 1 | The HPD was completed by Sustainable Solutions Corporation of Royersford, PA on behalf of the ASSA ABLOY Door Group. A link to this HPD can be found [here](#). |
| Action Plan Creation Date | July 1, 2020 |
| Action Plan Expiration Date | July 1, 2024 |
| Type(s) of Green Chemistry Principle(s) being implemented in the Action Plan | ☒ 1. Prevention  
☐ 2. Atom Economy  
☐ 3. Less Hazardous Chemical Syntheses  
☒ 4. Designing Safer Chemicals  
☒ 5. Safer Solvents and Auxiliaries  
☒ 6. Design for Energy Efficiency  
☐ 7. Use of Renewable Feedstocks  
☐ 8. Reduce Derivatives  
☐ 9. Catalysis  
☐ 10. Design for Degradation  
☐ 11. Real-Time Analysis for Pollution Prevention  
☐ 12. Inherently Safer Chemistry for Accident Prevention |
### Narrative description of the immediate and long-term actions within the action plan to mitigate hazards

ASSA ABLOY is committed to continuously evolving their manufacturing process in order to minimize the environmental impacts that accompany manufacturing. The below list details the overall goal of the action plan regarding each of the above specified Green Chemistry Principles.

**#4. Designing Safer Chemicals** - Design chemical products that are fully effective yet have little or no toxicity.

**#5. Safer Solvents and Auxiliaries** - Avoid using solvents, separation agents, or other auxiliary chemicals. If you must use these chemicals, use safer ones.

**#6. Design for Energy Efficiency** - Run chemical reactions at room temperature and pressure whenever possible to increase energy efficiency.

AADG TrioE / 777E team intends to improve the finish applied to the door to improve finish aesthetic options, reduce chemicals, energy, and material usage. This material improvement will create a more efficient manufacturing process with a reduction in manufacturing energy, water, chemical use, and safer chemicals in the final product.

AADG TrioE / 777E team will conduct annual review of action plan progress with the third-party verifier, GreenCircle Certified, to ensure that goals are being met.

### Indicate the steps previously taken in the action plan that correspond to the Green Chemistry Principles identified above

<table>
<thead>
<tr>
<th>Green Chemistry Principle</th>
<th>Step Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>#4. Designing Safer Chemicals</strong></td>
<td>08 / 16 / 2016 – AADG TrioE / 777E team eliminated Freon (Red List) as blowing agent for the polyurethane foam fill process – replaced with solvent free blowing agent with chemistry that has a global warming potential (GWP) of 1, which is more than two orders of magnitude (99.9%) lower than current HFCs used in this industry. The polyurethane formulation change also improved AADG Mercury and Imperial door polyurethane cores.</td>
</tr>
<tr>
<td><strong>#5. Safer Solvents and Auxiliaries</strong></td>
<td>11 / 07 / 2018 – AADG TrioE / 777E team minimized use of hazardous solvents and changed paint/primer chemistry in the TrioE metal door to reduce or eliminate Red List ingredients. The primer change to a more sustainable formulation positively impacted all hollow metal doors manufactured at Ceco.</td>
</tr>
</tbody>
</table>

### Indicate the future steps in the action plan that correspond to the Green Chemistry Principles identified above

ASSA ABLOY utilizes their signature Compass tool in order to evaluate potential changes to product composition and manufacturing process design. The compass tool utilizes the “reduce, reuse, recycle” methodology to analyze the sustainability of a product compared to the proposed product changes. For more information on ASSA
ABLOY’s Compass tool, see the following link: https://www.assaabloy.com/en/com/sustainability/cases/assa-abloy-sustainability-compass/

#4. Designing Safer Chemicals & #6. Design for Energy Efficiency

7 / 1 / 2021 – AADG TrioE / 777E team will complete various laboratory tests in accordance with ASTM, ANSI, and ISO guidelines in order to identify and evaluate raw material composition changes for the entire product’s bill of materials. These changes aim to reduce the use of chemicals and solvents as well as modifying the manufacturing process that AADG implements for hollow metal door manufacturing with the goal of reducing energy consumption. The evaluation will be completed using the ASSA ABLOY Compass tool to ensure that the alternative raw materials will lower the product’s environmental impacts while maintaining the same fit, form, and functional performance as the current materials.

7 / 1 / 2022 – AADG TrioE / 777E team will build test doors to analyze the effects of chemical composition changes on the manufacturing process and the door performance. The ASSA ABLOY Compass tool will be utilized to evaluate the reductions in energy and water used in the manufacturing of hollow metal doors. The AADG team will specifically use the carbon footprint aspect of the Compass tool to complete this evaluation and verify that the composition changes in the product meet ASSA ABLOY and Steel Door Institute requirements.

7 / 1 / 2023 – Upon validation of the chemical composition alternatives, the AADG TrioE / 777E team will evaluate the current inventory of the original chemical design at all manufacturing facilities and begin facility-wide depletion of the current stock.

7 / 1 / 2024 – Following depletion of the current stock, the AADG TrioE / 777E team will begin the ramp-in phase. This phase will include logistic coordination of the new clean stock, process training for all facilities on the changes to the manufacturing process, and the eventual launch of the new process with the newly designed raw material changes.
Additional certification(s) necessary for/relevant to the action plan

Certified Environmental Facts Label -
http://database.greencirclecertified.com/database/