

Fenestration Product Rating/Certification Flow Chart

Non-Residential

Yes

NFRC 100 - Part 2

Grouping:
 - glazing
 - frame
 - spacers
 - dividers
 (rules need to be worked out)?

CS simulation in THERM using 4 generic B/W options
 Glazing simulations in WINDOW
 Spacer Simulations in spacer library approved program
 Using NFRC approved integrator tool (under development) calculate total product performance for tested configuration

Validation Testing:
 - validate any product per PL
 - validation testing for new PL
 - no re-testing unless design change

Validate

Yes

Upload to database sim. results for:
 - 4 generic B/W options,
 - all glazing options
 - all spacer options
 (Note: database needs to be revised to accept B/W component approach)

IA issues CAR for components.
 Database entries receive "#"

Use NFRC approved integrator tool (under development) to get whole product certificate (product report) and/or job site (project) certificate (project report) at NFRC size & at actual size.

No

NFRC 100

Manufacturer sends drawings

Grouping - existing rules from NFRC 100 - Part 1

Glazing sims in WINDOW (all)
 CS simulation in THERM for all options (glazing and spacer, subject to grouping rules)

Validation Testing for a selected product option (within 20% of lowest U-factor)

Validate

Yes

Upload to database using current process (Appendix E)

IA issues CAR for all product options (subject to grouping).
 Products become part of CPD

Manufacturer prints labels for all product options (subject to grouping rules)

All testing

No

All testing?
 or
 Adjustment to sim results?
 or
 additional test on the opposite side of performance and then adjustment to sim results based on the curve from two validation tests?

No