Some basic insights specifying **Blast / Pressure / Missile Resistant Doors and Windows:**

1. Special purpose doors and windows are to be specified as a performance spec. Do not specify the door construction or another manufacturer’s construction. PDI analyzes the criteria and uses its' own proprietary design to withstand the design load. (There is no such thing as a generic or common blast / pressure / missile resistant door or window.)

2. Specify blast / pressure criteria correctly:
   a. If the blast load is to be analyzed in the static mode, include the whole term ‘static equivalent load’. For example, state the criteria as: ‘Withstand ____ PSF /or/ ____ PSI static equivalent load in seating and unseating direction with 100% rebound.’
   b. If the blast load is to be analyzed in the dynamic mode, specify the $P_r$ peak reflected pressure and time duration (stated in msec). The rebound will be per PDI’s analysis calculations. For example, state the criteria as: ‘Withstand dynamic load of ___ PSI $P_r$ peak reflected pressure for ___ msec. in the seating direction; rebound as calculated.’
   c. In both cases, specify the direction of the blast load – either seating /or/ unseating direction.
   d. Do not use the word ‘overpressure’. This is vague and incomplete terminology. The blast criteria must be stated as 2.a or 2.b above.
   e. Do not reference a standard or manual as the blast pressure. Normally, manuals are a guideline and do not list blast loads. The blast criteria is always unique to the project and must be specified as 2.a or 2.b above.

3. If manufacturer submits lab test only, review it thoroughly. The reality is it verifies door construction ONLY for that blast load and time duration and ONLY for that door size and configuration. The reactions may not be the same. A reputable blast door manufacturer can always produce a set of analysis calculations to prove the unit will withstand the specified load for the intended size and configuration. See BLOG.

4. If missile resistance is required, specify it correctly and completely. State the composition, weight, shape and velocity of the projectile along with the number and location(s) of possible hits.

5. Specify airtight or gastight correctly by furnishing the pressure /or/ water gauge pressure differential and leakage rate. Refer to the questionnaire on the Blast/Pressure/Missile Chart under PDI Door Models **DB-150** and **DA-100**.

6. **Please** do not specify HM hollow metal door standards, construction, tolerances, etc. in a special purpose door specification. These are different entities.

7. Hardware schedule:
   a. Simply state hardware as ‘HARDWARE AND HINGES BY BLAST DOOR MANUFACTURER’ but also include hardware trim and related functions (i.e. passage; storeroom or classroom function).
   b. Do not specify builders’ hardware. PDI manufactures its own proprietary **Sonicbar** blast resistant hardware able to withstand the blast criteria and handle the weight of the door.
   c. Please understand the ramifications if specifying NFPA 101 or ADA requirements to meet operational forces. The blast protection governs the door construction, hardware and number of latch bolts in addition to the many variables at site that affect operational forces. A power operator may be necessary to meet this requirement and must be addressed prior to fabrication.
      - **Note:** Normally a power operator is not necessary. With proper installation, PDI’s doors are engineered to open and swing smoothly and with minimal effort.
   d. PDI determines and supplies the type of **Sonicbar** hinges based on the size and weight of each door panel.
   e. Hold-open devices are discouraged. When not in use, the door must remain closed at all times.

8. Use of galvanized or G60 material is not compatible with an all-welded assembly and must not be specified. Doors and frames also cannot be hot-dip galvanized. Different gauges and thicknesses of steel are used and the thinner material may warp in the process. Instead, as an option, PDI can apply ZRC cold-galvanizing zinc rich metal primer.
   - **Note:** PDI’s standard rust inhibitive metal primer is compatible for most applications.

9. For LEED consideration, these doors and windows are made of all steel construction, a recyclable commodity. **(Please do not specify aluminum, fiber glass or wood.)**

10. A vision panel is an option, but there may be size limitations, especially when U.L. Fire Label is required.

11. It is the responsibility of either the end-user or GC to approve the installation and operation. This is not under the blast manufacturer’s scope of responsibility.