

# **Storm Shelter Quality Verification**

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Use of this document is intended to verify and improve the quality of storm shelters offered by builders and manufacturers. It is intended for use by funding agencies, building inspectors, or others in positions to influence or require quality assurance in storm shelters. The form should be completed by any company or party offering shelters and having responsibility to the purchaser for the quality of the product. It may be used as a checklist by consumers to interact with shelter providers on the most fundamental quality issues.

Ability to answer "Yes" to the first question implies that all concerns following have been addressed in acquiring membership in NSSA and that the shelter design complies or exceeds the NSSA Standard.

### **Quality Verifications**

Are you a MEMBER of NSSA, verifying compliance with the Standard?			
Yes No			
If yes, show evidence of membership such as a membership acceptance letter or a shelter seal.			
<u>OR</u>			
Has it been verified by an independent, registered engineer that the shelter you offer complies in all respects to existing quality standards, currently the National Storm Shelter Association (NSSA) Standard available at www.nssa.cc? This verification must include evidence of successful debris impact testing.			
Yes No			
If yes, show the sealed engineering report or verification letter.			
If <u>no</u> to both questions, show documentation (e.g., engineering calculations, testing or reports) that the following questions have been addressed and affirmed.			
Are the credentials provided for the persons involved?  Yes  No			
Are reports provided?			

## **Above Ground Shelters**

## **Debris Impact Resistance** Have all exposed elements been tested for debris impact resistance? Yes No **Structural Integrity** Has the structure been designed to withstand the pressures exerted by extreme winds? Is the roof adequately connected to the walls? Yes No Are the walls adequately anchored to the floor? Yes No Is the shelter anchored to a slab that has reinforcement and is in Yes No good condition? Is the shelter separate from other load resisting elements of the building? Yes No **Doors** Yes Has the door assembly been tested to meet impact loads and wind pressures? Are there three deadbolts with adequate strength to withstand the wind forces? Yes Do the locking mechanisms engage and disengage without undue force? Can the locks be operated from the outside? Yes No Is the door provided with 3 heavy-duty hinges capable of withstanding Yes No wind-induced forces? **Venting** Is the shelter adequately vented to provide breathing air for maximum Yes No occupancy and to relieve atmospheric pressure changes? Are the vents protected from intrusion of wind-borne debris? Yes

#### **Site Location**

Is the shelter located to permit quick access without outdoor exposure?	Yes	No
Is the shelter location free from large falling objects such as towers or tall chimneys?	Yes	No
<b>Business Practices</b>		
Does the company offering the shelter carry substantial liability insurance?	Yes	No
Are the installation personnel bonded or otherwise show responsibility?	Yes	No

#### **Clarification or Additional Information**

The National Storm Shelter Association posts it's industry standard on the web at www.nssa.cc It is consistent with FEMA guidelines as followed in FEMA 320, *Taking Shelter from the Storm -- Building a Safe Room Inside Your House* and with FEMA 361 *Design and Construction Guidance for Community Shelters*. Additional information may be obtained from Texas Tech University (806) 742-3476 and the National Storm Shelter Association at 877-700-6772. A national consensus standard, the International Code Council/National Storm Shelter Association (ICC/NSSA) Standard for Design and Construction of Storm Shelters can be obtained through the National Storm Shelter Association (www.nssa.cc) or the International Code Council (www.icc.org).