

USAR Marking System

Information gathered by search and reconnaissance personnel must be represented in a standardized fashion to ensure uniformity and clarity. The USAR marking system is identified and divided into 3 sections.

1. Structure/Hazards Marking
2. Search Assessment Marking
3. Victim Location Marking System

The following activities should be performed prior to beginning search & rescue operations.

1. Identify buildings individually (by address, physical location, etc.)
2. General triage to separate buildings that offer the highest potential for viable rescue opportunities.
3. Hazard assessment and hazard marking of any building prior to search & rescue operations.
4. Search and rescue marking of a building

Structure/Hazards Marking System

A standardized marking system to identify structures in a specific area and any hazards found within or near the structure. The structure triage, assessment and marking system is intended to be the National Standard system for evaluating, identifying, and marking buildings. It is designed to help identify, select and prioritize the buildings with the largest probability of success with respect to finding and rescuing victims.

It is important that information related to building identification, conditions, hazards and victim status are posted in a standardized fashion. The theme of search & rescue must be to save trapped victims while minimizing the risk to the victim and the rescue forces.

Structure hazards identified during initial size up activities and throughout the incident should be noted.

A 2 foot x 2 foot square box is outlined at any entrance accessible for entry into any structure. Aerosol cans of International Orange spray paint are to be used for this purpose.

An arrow should be placed next to the 2' x 2' orange box indicating the direction of the safe entrance, unless the entrance is next to the orange box.

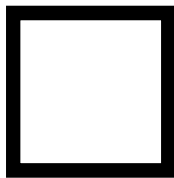
It is essential to mark ALL normal entry points of a building to ensure that personnel approaching the building can identify that it has been evaluated and discern its condition.

Put the date, time, hazardous material conditions and team or company identifier outside the box on the right hand side. This information should be made with lumber crayon or lumber chalk.

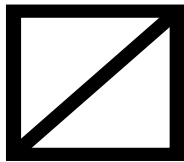
All personnel must be aware of the possibility of, and look for other structure/hazard markings that may be on the inside of the building. Such as interior rooms, hallways, etc.

Every time an assessment is performed throughout the mission a new TIME, DATE and ID entry will be indicated below the previous entry or a completely new marking box will be made, if the original information is now incorrect.

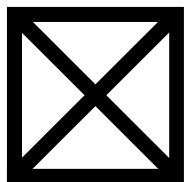
The depiction of the various markings is as follows:



Structure is accessible and safe for search and rescue operations. Damage is minor with little danger of further collapse.



Structure is significantly damaged. Some areas are relatively safe, but other areas may need shoring, bracing, or removal of falling and collapse hazards. The structure may be completely pancaked.



Structure is not safe for search and rescue operations and may be subject to sudden additional collapse. Remote search operations may proceed at significant risk. If rescue operations are undertaken, safe haven areas and rapid evacuation routes should be created.



Arrow located next to a marking box indicates the direction to the safe entrance to the structure, should the marking box need to be made remote from the indicated entrance.

HM

Indicates that a HAZMAT condition exists in or adjacent to the structure. Personnel may be in jeopardy. Consideration for operations should be made in conjunction with the Hazardous Materials Specialist. Type of hazard may also be noted.

The TIME, DATE, and RESCUE TEAM ID, are noted outside the box at the upper right-hand side. This info is made with carpenter's chalk or lumber crayon. An optional method is to apply duct tape on the exterior of the structure and write the information with a grease pencil or black marker.



The example indicates that a safe point of entry exists above the marking (possibly a window, upper floor, etc.). The single slash means the structure may require some shoring and bracing. The assessment was made on July 15, 1991, at 1:10 PM. There is an apparent indication of natural gas in the structure. The evaluation was made by TF #1 out of the State of California.

Search Marking System

Search Assessment Marking

A standardized marking system employed during and after the search of a structure for potential victims used in conjunction with the Structure and Hazards marking system.

Search Markings must be easy to make, easy to read and easy to understand. To be easily seen the search mark must be large and of a contrasting color to the background surface. Orange spray paint seems to be the most easily seen color on most backgrounds and line marking or downward spray cans apply the best paint marks. Lumber chalk or lumber crayons should be used to mark additional information inside the search mark itself because they are easier to write with than spray paint.

A large distinct marking will be made outside the main entrance of each building or structure searched. This "Main Entrance" search marking will be completed in two steps.

First, a large (approx. 2') single slash shall be made near the main entrance at the start of the search.

After the search of the entire structure has been completed a second large slash shall be drawn in the opposite direction forming an "X".

Specific information will be placed in all four quadrants of the Main Entrance "X" summarizing the entire search of the structure.


- The left quadrant is for the Rescue Team Identifier.
- The top quadrant is for the date and time the search was completed.
- The right quadrant is for any significant hazards located in the structure.
- The bottom quadrant is for the number of "LIVE" or "DEAD" victims still inside the structure. Use a small "x" in the bottom quadrant if no victims are inside the structure.

During the search function while inside the structure a large single slash shall be made upon entry of each room or area. After the search of the room or area has been completed a second large slash shall be drawn in the opposite direction forming an "X". The only information placed in any of the "X" quadrants while inside the structure shall be that pertaining to any significant hazards or the number of "LIVE" or "DEAD" victims.


Search Assessment Marking

- A separate and distinct marking system is necessary to conspicuously denote information relating the victim location determinations in the areas searched.
- The Search Assessment marking system is designed to be used in conjunction with the Structure and Hazards Evaluation marking system.
- An "X" that is 2' X 2' in size will be made with International Orange color spray paint. This X will be constructed in two operations:

1400 hr
CA-
TF1



Single slash drawn upon entry to a structure or area indicates search operations are currently in progress. The time and TF identifier are posted as indicated.



Crossing slash drawn upon personnel exit from the structure or area.

- Distinct markings will be made inside the four quadrants of the X to clearly denote the search status and findings at the time of this assessment.
- The marks will be made with carpenter chalk, lumber crayon, or duct tape and black magic marker.

CA-TF1
X

LEFT QUADRANT –
Team identifier

7/15/91
1400 hr

X

TOP QUADRANT - Time and
date that the personnel left
the structure.

X RATS

RIGHT QUADRANT -
Personal hazards.

X
2 - LIVE
3 - DEAD

BOTTOM QUADRANT -
Number of live and dead
victims still inside the
structure.

["0" = no victims]

- It is important that markings are made specific to each area of entry or separate part of the building.
- If no victims are found, it is noted with a "0" below.
- Situation updates are noted as they are available:
 - ◊ Previous search markings are crossed out; and
 - ◊ New markings are placed below (or next to) their previous markings with the most recent information.

STRUCTURE MARKING SYSTEM

Begin by using orange spray paint or lumber crayon to draw a 2-foot box. Then use the box to alert subsequent rescuers to building conditions or earlier findings.



Damage is minor with little danger of further collapse. Structure is safe for search and rescue operations.



Damage is significant. Shoring, bracing or removal of hazards is necessary.



Structure is not safe for search and rescue operations. Remote search operations may proceed at significant risk. Safe havens and evacuation routes should be established.



← Direction to safely enter building.

HM Hazardous material is present. Type of hazard may also be noted.



9/1/95 0800
HM-CHLORINE
CATF-2

Write date, time, hazardous materials present and team identification on the right-hand side of the box. For example, this building was searched Sept. 1, 1995, at 8a.m., chlorine was found, and the search was conducted by Los Angeles County CATF-2.

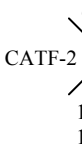
SEARCH MARKING SYSTEM



Search operations are currently in progress. (ORANGE)



Personnel have exited the structure. (ORANGE)



9/1/95
CATF-2
HM-
CHLORINE
1-LIVE
1-DEAD

Left quadrant – Team identifier.

Top quadrant – Time and date team left the structure.

Right quadrant – Hazards found.

Bottom Quadrant - Number of live and dead victims still

inside the structure. *Written in Black Marker or lumber crayon/chalk*

Source: Federal Emergency Management Agency Urban Search and Rescue Task Force System.

This page should be laminated and incorporated into your response gear, for future reference.

General Rescuer Safety Procedures

1. Basic rescuer safety equipment (hard hat, ropes, pry bar, first aid kit, etc.)
2. Be aware of safety and health risks around the disaster site
3. **Never work alone** – Use the Buddy system
4. Always have communication – radio, voice, or runners
5. Establish evacuation and entrapment signals
6. Assign a Safety Officer to the operation and EACH team
7. Review structure evacuation techniques before entering a structure
8. ALWAYS mark entry point where structure search begins
9. Follow safety precautions for lifting and moving objects

Site/Personnel Safety

Emergency signaling and evacuation procedures must be understood and immediately recognized. Alerting devices shall be used to sound the appropriate signals as follows:

Cease Operation	All Quiet	1 long signal (3 seconds)
Evacuate the Area		3 short signals (1 second each), followed by pause, repeated until all members are accounted for
Resume Operations		1 long and 1 short signal

General Rescuer Methodology

Rescue the maximum number of victims, with minimum risk to rescuers.

- Priority with live victims; dead are noted and removed later
- Initially, rescue victims who are easy to get to, extricate, and evacuate

Size up EACH structure before entering

- Surround structure and check for both victims and safety problems
- Look for structure/search markings
- Look through windows, doors, and openings for victims and hazards before entering.