

## STRUCTURAL COLLAPSE - SEARCH TECHNICIAN

RESOURCE CATEGORY	Search and Rescue
RESOURCE KIND	Personnel
OVERALL FUNCTION	The Structural Collapse Search Technician performs search in structural collapse incidents
COMPOSITION AND ORDERING SPECIFICATIONS	<ol style="list-style-type: none"><li>1. This position can be ordered as a single resource or in conjunction with a NIMS typed team (Structural Collapse Search Team).</li><li>2. Logistics for deploying this position (e.g., security, lodging, transportation, meals) must be discussed prior to deployment of this resource.</li><li>3. Operations in search and rescue environments might be immediately dangerous to life and health (IDLH), per ASTM F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel. The requesting authority must consider the need for additional recognized capability or endorsements.</li><li>4. Discuss logistics for deploying this position, such as security, lodging, transportation, and meals, prior to deployment</li><li>5. This position typically works 12 hours per shift, is self-sustainable for 72 hours, and is deployable for up to 14 days</li></ol>

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

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COMPONENT	TYPE 1	TYPE 2	NOTES
<b>DESCRIPTION</b>	<p>Same as Type 2 PLUS</p> <p>Performs search in structural collapse incidents, including identifying hazards in a collapsed structure defined as Heavy and/or Medium consistently with the UN INSARAG Guideline and Methodology for US&amp;R categories for structures</p>	<p>The Structural Collapse Search Technician is responsible for the following:</p> <ol style="list-style-type: none"> <li>1. Performs search in structural collapse incidents, including identifying hazards in a collapsed structure defined as Light consistently with the United Nations (UN) International Search and Rescue Advisory Group's (INSARAG) Guideline and Methodology for Urban Search &amp; Rescue (US&amp;R) categories for structures</li> <li>2. Conducts thermal, optical, acoustical, and audio search</li> <li>3. Requests rescue and evacuation and recovery resources as needed</li> <li>4. Performs medical care to include Basic Life Support (BLS)</li> <li>5. Reports to the Structural Collapse Search Team Leader, if applicable</li> <li>6. Operates within the Incident Command System (ICS), a specialized position within Structural Collapse Search Team</li> </ol> <p>General Functions</p> <ol style="list-style-type: none"> <li>1. Deploys for up to 14 days, ready to deploy within 24 hours of notification, self-sustaining for 72 hours upon arrival, and works up to 12 hours per shift</li> <li>2. Provides: <ol style="list-style-type: none"> <li>a. Safety of self and team members and operations</li> <li>b. Medical care of self and team members and subjects</li> <li>c. Simple decontamination of self and team members</li> <li>d. Basic ground support capability for helicopter operations</li> </ol> </li> <li>3. Use of ground vehicles, water vehicles and aircraft for operations and support.</li> <li>4. Operates in environments with and without infrastructure including those affected by disasters and terrorism; with compromised access to roadways, utilities, transportation, and limited availability of shelter, food, and water</li> </ol>	Not Specified
<b>EDUCATION</b>	Not Specified	Not Specified	Not Specified

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COMPONENT	TYPE 1	TYPE 2	NOTES
<b>TRAINING</b>	<p>Same as Type 2 PLUS:</p> <ol style="list-style-type: none"> <li>1. National US&amp;R Response System Orientation course or equivalent</li> <li>2. National US&amp;R Response System Technical Search Specialist Training or equivalent</li> <li>3. National US&amp;R Structural Collapse Technician Course or equivalent</li> <li>4. FEMA/Department of Justice (DOJ) Emergency Response to Terrorism: Basic Concepts training or equivalent</li> </ol> <p>Completion of the following awareness-level training:</p> <ol style="list-style-type: none"> <li>1. Critical Incident Stress Management Training</li> <li>2. Weapons of Mass Destruction (WMD) Awareness Training (AWR160) or equivalent (to be refreshed every 5 years)</li> <li>3. Annual Hazardous Materials First Responder Awareness, per OSHA 29 CFR 1910.120 (Q)(6)(i) or equivalent</li> </ol> <p>Completion of a NFPA, ASTM or equivalent Structural Collapse SAR training program as validated by the AHJ that meets the experience specific to a Structural Collapse Search Technician and that includes but is not limited to Department of Homeland Security (DHS)/FEMA Structural Collapse Technician Course or equivalent</p>	<p>Completion of the following courses:</p> <ol style="list-style-type: none"> <li>1. IS-100: Introduction to Incident Command System (ICS), ICS-100</li> <li>2. IS-200: ICS for Single Resources and Initial Action Incidents</li> <li>3. IS-700: National Incident Management System (NIMS) An Introduction</li> <li>4. IS-800: National Response Framework, An Introduction</li> <li>5. IS-809: Emergency Support Function (ESF) #9 - Search and Rescue</li> <li>6. Awareness training consistent with operations level National Fire Protection Association (NFPA) 1670: Standard on Operations and Training for Technical Search and Rescue Incidents in the following areas: <ol style="list-style-type: none"> <li>a. Confined space rescue operations</li> <li>b. Water rescue operations</li> <li>c. Structural collapse operations</li> </ol> </li> </ol> <p>Completion of the following capability-based training:</p> <ol style="list-style-type: none"> <li>1. Annual Bloodborne Pathogens per Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1030 (Code of Federal Regulations) or equivalent and Airborne Pathogens Training</li> <li>2. OSHA 29 CFR 1910.120 and/or 1910.134(f) Respiratory Protection including the successful completion of a quantitative respiratory protection fit test and the associated currency requirements with the exception of all incident structural searches that require 29 CFR 1910.120 (q)(6)(ii) and annual refresher training or equivalent, as applicable</li> <li>3. Use, care, inspection and maintenance of all related personal protective equipment (PPE), tools, devices and equipment specific to this position and sub-specialties</li> <li>4. Current certification in basic first aid for first responders or equivalent to include cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED)</li> <li>5. Completion of a National Fire Protection Association (NFPA), ASTM International (ASTM) or equivalent (Continued)</li> </ol>	Not Specified

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COMPONENT	TYPE 1	TYPE 2	NOTES
TRAINING		(Continued) Structural Collapse Search and Rescue (SAR) training program or as verified by the Agency Having Jurisdiction (AHJ) meeting the following position-specific key skills and aptitudes: a. SAR Hazard Awareness, Navigation and Survival training or equivalent b. OSHA Duties of the Entrant per 29 CFR 1910.146 6. FEMA Global Positioning System (GPS) awareness course or equivalent 7. Confined space rescue and fall protection training in accordance with OSHA regulations or equivalent	

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COMPONENT	TYPE 1	TYPE 2	NOTES
<b>EXPERIENCE</b>	Same as Type 2	<p>Knowledge, Skills, and Abilities (KSA):</p> <ol style="list-style-type: none"> <li>1. Ability to function at the Technician level</li> <li>2. Ability to perform thermal, optical, acoustical, and audio search</li> <li>3. Ability to identify and apply the role of the Structural Collapse Search Technician within the incident management structure</li> <li>4. Knowledge of structural collapse search and associated hazards, including recognition of the various types of building and structural collapses and their impact</li> <li>5. Understanding of search procedures in the building/structural collapse environment during day and night operations</li> <li>6. Ability to identify and use appropriate Personal Protective Equipment(PPE)</li> <li>7. Ability to carry out the following: <ol style="list-style-type: none"> <li>a. Technical rescue operations</li> <li>b. General standards of technical rescue</li> <li>c. Rope rescue</li> <li>d. Structural collapse search and rescue</li> <li>e. Confined space search and rescue</li> <li>f. Machinery rescue</li> <li>g. Trench and excavation search and rescue</li> </ol> </li> <li>8. Knowledge of the capabilities of canine search</li> <li>9. Technical rescue skills: <ol style="list-style-type: none"> <li>a. General guidelines outlined in NFPA 1670 or equivalent</li> <li>b. Rope rescue awareness outlined in NFPA 1670 or equivalent</li> <li>c. Trench rescue awareness outlined in NFPA 1670 or equivalent</li> <li>d. Proficiency as per duties of the entrant within 29 CFR 1910.146</li> </ol> </li> <li>10. Additional recommended Rope Rescue Skills <ol style="list-style-type: none"> <li>a. Understanding of safety considerations during rope rescue operations</li> <li>b. Understanding of characteristics of life safety rope and webbing</li> <li>c. Ability to apply rope rescue hardware specific to a lowering operation</li> </ol> </li> </ol> <p>(Continued)</p>	<p>KSAs are addressed in NFPA 1006: Standard for Technical Rescuer Professional Qualifications and NFPA 1670: Standard on Operations and Training for Technical Search and Rescue Incidents.</p>

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COMPONENT	TYPE 1	TYPE 2	NOTES
<b>EXPERIENCE</b>		<p>(Continued)</p> <p>d. Ability to application of rope rescue hardware and software specific to a belay line</p> <p>e. Ability to assemble and apply a Class III harness</p> <p>f. Ability to assemble and apply a “hasty harness”</p> <p>g. Ability to tie a simple figure eight knot</p> <p>h. Ability to tie a figure eight follow-through knot</p> <p>i. Ability to tie an overhand follow-through with webbing</p> <p>j. Ability to attach a prusik loop to a rope</p> <p>k. Familiarity with anchor systems</p> <p>l. Familiarity with raising and lowering systems</p> <p>m. Demonstrated proficiency in attaching oneself to and participating in a raising or lowering system</p> <p>n. Demonstrated proficiency in descending and ascending a fixed line, low angle</p> <p>Experience:</p> <ol style="list-style-type: none"> <li>1. Experience that demonstrates scene management and dynamic assessment of risk</li> <li>2. Experience with relevant building/structural collapses, confined space and rope rescue techniques</li> <li>3. Experience with identifying hazards, including potential operating environments</li> <li>4. Experience as a NIMS Typed Type 4 Fire Officer</li> <li>5. Completion of the Structural Collapse Search Technician Position Task Book (PTB) or equivalent that validates and verifies (by AHJ) the successful completion of all skills, and demonstrated ability to perform skills in exercises and/or actual incident operations</li> </ol>	
<b>PHYSICAL/MEDICAL FITNESS</b>	Same as Type 2	<ol style="list-style-type: none"> <li>1. Ability to perform duties under arduous circumstances, characterized by working consecutive 12-14 hour days under physical and emotional stress for sustained periods of time</li> <li>2. Minimum physical fitness and swimming standards, Job Related Physical Ability Test (JRPAT) set by AHJ</li> <li>3. NFPA 1582 Standard on Comprehensive Occupational Medical Program for Fire Departments, or equivalent minimum medical fitness standards determined by the AHJ</li> <li>4. Maintains immunizations as outlined by the U.S. Department of Health and Human Services Centers for Disease Control’s most current recommended adult immunization schedule for the United States of America</li> </ol>	<p>Arduous fitness or work capacity criteria should be consistent with the physical fitness levels defined in the NWCG Wildland Fire Qualification Systems Guide, NFPA 1582: Standard on Comprehensive Occupational Medical Programs for Fire Departments, or equivalent physical and medical fitness criteria determined by the AHJ.</p>

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COMPONENT	TYPE 1	TYPE 2	NOTES
<b>CURRENCY</b>	Same as Type 2	<ol style="list-style-type: none"> <li>1. Annual refresher of related rescue skills and abilities in structural collapse environments</li> <li>2. Operational incident experience and/or participation in exercises, drills, or simulations within three years from the time approved by the AHJ to serve as a Structural Collapse Search Technician</li> <li>3. Background checks as permitted and/or required by applicable law</li> <li>4. Completion of a quantitative respiratory protection fit test per 29 CFR 1910.134</li> </ol>	The providing entity must carry out and use any background checks as specified by applicable law. This may or may not include the following: background check currency within twelve months; sex offender registry check; and a local, state and national based criminal history.
<b>PROFESSIONAL AND TECHNICAL LICENSES AND CERTIFICATIONS</b>	Same as Type 2	<ol style="list-style-type: none"> <li>1. Certification and/or recertification as required by the AHJ in order to perform medical care including Basic Life Support (BLS)</li> <li>2. Certification or documentation indicating completion of training outlined above (Structural Collapse Search Technician)</li> <li>3. Certification or completion of structural collapse, confined space, and high and low angle training that relates to the job standards</li> </ol>	The AHJ determines the types of emergency medical certifications needed to meet the minimum criteria, including: first aid, CPR, and Basic Life Support (BLS) or Advanced Life Support (ALS). The AHJ determines any other additional certifications requirements in accordance with NFPA and ASTM search and rescue standards, or equivalent.

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### NOTES

Nationally typed resources represent the minimum criteria for the associated category. The Agency Having Jurisdiction (AHJ) may require additional training, capabilities, and endorsements.

### REFERENCES

1. FEMA, NIMS 509-4: Fire Officer
2. FEMA, NIMS 508-8: Structural Collapse Rescue Team
3. FEMA, NIMS 508-8: Structural Collapse Search Team
4. FEMA, NIMS 509-8: Structural Collapse Rescue Team Leader
5. FEMA, NIMS 509-8: Structural Collapse Rescue Technician
6. FEMA, NIMS 509-8: Structural Collapse Search Team Leader
7. FEMA, National US&R Response System, Structural Collapse Technician Course – Student Manual, October 2012
8. United Nations (UN) International Search and Rescue Advisory Group (INSARAG), Guidelines and Methodology, April 2012
9. American Society for Testing and Materials International (ASTM) F-2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel, latest edition adopted
10. National Fire Protection Association (NFPA) 1006: Standard for Technical Rescuer Professional Qualifications, latest edition adopted
11. NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments, latest edition adopted
12. NFPA 1670: Standard on Operations and Training for Technical Search and Rescue Incidents, latest edition adopted
13. National Wildfire Coordinating Group (NWCG) Publication, PMS 304-2 Fitness and Work Capacity, latest edition adopted
14. Occupational Safety and Health Administration (OSHA), 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
15. OSHA, 29 CFR 1910.134, Respiratory Protection
16. OSHA, 29 CFR 1910.146, Permit-Required Confined Spaces
17. OSHA, 29 CFR 1910.1030, Annual Bloodborne Pathogens

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