

Fireground Size-Up

Study Guide

By Paul T. Dansbach
and Michael A. Terpak

PennWell®

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This study guide is dedicated to all firefighters across our great nation who train to be better prepared to respond to the citizens of their communities in their time of need. As you use this study guide to hone your firefighting skills, remember the following:

- Training and education are investments in yourself and in your brother firefighters.
- The more you learn about the fire service, the more you realize there is always more to learn.
- Be heads up and be safe.

Contents

Foreword	IX
Preface	XI
Acknowledgments	XIII
Photo Credits	XIII
1: The Fifteen Points of Size-Up	
Chapter Questions	1
2: Private Dwellings	
Chapter Questions	7
Photo Scenario Questions	13
3: Multiple Dwellings	
Chapter Questions	17
Photo Scenario Questions	23
4: Taxpayers/Strip Malls and Stores	
Chapter Questions	27
Photo Scenario Questions	33
5: Garden Apartments and Townhouses	
Chapter Questions	39
Photo Scenario Questions	45
6: Row Frames and Brownstones	
Chapter Questions	49
7: Churches	
Chapter Questions	55
Photo Scenario Questions	61

8: Factories, Lofts, and Warehouses	
Chapter Questions	65
Photo Scenario Questions	71
9: High-Rise	
Chapter Questions	75
Photo Scenario Questions	81
10: Vacant Buildings	
Chapter Questions	83
Photo Scenario Questions	89
Final Exam Questions	91

Foreword

When this project first began a number of years ago, the concept of size-up was limited in its definition and information. Definitions varied, information was vague, and others discredited its importance. It became quickly evident to me early on in my career as a firefighter in Jersey City that the information being shared, as well as personally viewed, often proved to be invaluable, and in many instances, it was lifesaving.

After years of observing and documenting the experiences of those who had been there before, and personally having the opportunity to work in a congested urban city, the text *Fireground Size-Up* was born (published in 2002 by PennWell).

It was my intent with this book that its content would be experienced, credible, useful, and easily referenced. It seems that those same objectives are being met again. Within the *Fireground Size-Up Study Guide*, Chief Paul Dansbach is carrying on this mission. A great friend and respected fire service educator, Paul furthers the information sharing by testing and evaluating the reader through use of multiple-choice questions and scenario-based responses on each of the occupancies discussed in the text. His approach in this companion study guide is direct and challenging. With size-up being the foundation for a fire officer's decision making, you should expect nothing less.

It will be a valuable addition to your fire service library.

*Michael Terpak
Chief, 2nd Battalion
City of Jersey City Fire Department*

Preface

Many of these chapters contain pictures of various occupancies and ask questions about points of size-up of the given building. The questions are intended to allow the student to apply the information in the text *Fireground Size-Up*. Understand that there may be many “correct” answers to the questions and we are limited by the view of the camera lens.

At the end of each chapter is an answer key showing the best answer to each question. Also included are references to the pages in Michael Terpak’s *Fireground Size-Up* text to aid the reader in further study.

Fire instructors, chief officers, and company officers are encouraged to use this training format in their local departments by using photos and images of buildings. This can be a very valuable training tool for your fire department as you reinforce and test your members’ knowledge while gaining important information and a better understanding of the buildings in which you may be called upon to fight fire.

Never stop training . . . Never, Never, Never, Never!

Paul Dansbach

Acknowledgments

I would like to thank Michael A. Terpak for the opportunity to develop and write this study guide. Mike's confidence in my ability, encouragement in this project, and words of wisdom: "Don't make the questions too hard" were invaluable while preparing this text. Mike is truly a great fire service instructor, a natural fire service leader—and above all, Mike is a great friend. Thanks Mike!

Photo Credits

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FDIC Photographer

1

The Fifteen Points of Size-Up

CHAPTER QUESTIONS

- 1) *Alterations and renovations to buildings have resulted in hybrid construction. It is important for the fire officer to recognize hybrid construction because:*
 - a) Hybrid construction always uses steel to replace wood structural elements.
 - b) Hybrid construction may use lightweight structural elements, thereby reducing the collapse resistiveness of certain buildings.
 - c) Hybrid construction is easy to recognize, so preplanning of these structures is not important.
 - d) Hybrid construction uses “engineered structural elements” that have the same characteristics as the original structural components they are replacing.

- 2) *The term area is defined as the square footage involved in or threatened by the fire. The following building features should be identified to determine the area of a building:*
 - a) Basement level area and structural support system.
 - b) 1st-floor level area and access to the rear of the building.
 - c) Irregular-shaped buildings and interconnected buildings.
 - d) Mezzanine areas and access to the mezzanine level.

3) *The following are occupant life hazard concerns:*

- a) Time of day and the size of the building.
- b) Street conditions for apparatus access and terrain for ground ladder access.
- c) The number of and location of the occupants.
- d) Resources necessary and type of construction.

4) *Which of the following occupancy characteristics may have an impact on the structural integrity of the building?*

- a) High-value occupancies, such as museums.
- b) Buildings containing water-absorbent materials.
- c) Assembly occupancies, such as nightclubs.
- d) Research facilities employing poisonous and biohazard materials.

5) *The Life Hazard size-up is without question the most important size-up point to a fire officer. Which of the following size-up points influence the decision-making process in determining the Life Hazard size-up?*

- a) Construction, occupancy, and street conditions.
- b) Occupancy, height, and time of day.
- c) Street conditions, occupancy, and time of day.
- d) Occupancy, location and extent of fire, and time of day.

6) *Location and Extent of fire size-up point categorize the fire location into four categories. Each separate category identifies specific extension potentials, resource requirements, life hazard potential, and ventilation problems. Choose the four correct categories:*

- a) Fires in stairways, fires below grade, fires in shafts, and top floor fires.
- b) Fires below grade, fires at lower levels of the structure, top floor and attic/cockloft fires, and fires beyond the reach of fire department aerial apparatus.
- c) Fires in shafts, fires below grade, fires beyond the reach of fire department aerial apparatus.
- d) Fires in shafts, fires below grade, fires on floors accessible by fire department aerial apparatus, and fires beyond the reach of fire department aerial apparatus.

- 7) *The size-up point **Street Conditions** include the following considerations:*
- a) Street width, terrain, and street surface.
 - b) Terrain, traffic flow, and unusual condition such as flooding.
 - c) Street width, traffic flow, and street surface.
 - d) Terrain, traffic flow, and weather.
- 8) *When fighting a fire in a cockloft, introduction of air into a concealed space from below may:*
- a) Cause the ceiling to explode down, trapping firefighters.
 - b) Cause the ceiling area to flashover, exposing firefighters to extreme temperatures.
 - c) Have no effect on the fire in the cockloft.
 - d) Both **a** and **b** are correct answers.
- 9) *Which are the three primary correct choices for size-up considerations for below-grade fires?*
- a) Time of day, access to the below-grade level, and ventilation.
 - b) Time of day, fire loading, and access to the below-grade level.
 - c) Access to the below-grade level, ventilation, and day of the week.
 - d) Access to the below-grade level, ventilation, and fire loading.
- 10) *For the size-up factor **Weather**, which two factors have the greatest impact on firefighter safety?*
- a) Wind and temperature.
 - b) Temperature and humidity.
 - c) Humidity and precipitation.
 - d) Precipitation and wind.

11) *Specialized extinguishing equipment includes systems capable of extinguishing a specific type of fire within a given occupancy. These systems include which of the following?*

- a) Fixed wet or dry chemical systems and dry pipe sprinkler systems.
- b) Fixed foam systems, fixed wet or dry chemical systems, and wet pipe sprinkler systems.
- c) Fixed foam systems, wet or dry chemical systems, and halon or other clean-agent systems.
- d) Fixed wet or dry chemical systems, halon or other clean-agent systems, and wet pipe automatic sprinkler systems.

12) *The water supply required for a specific incident will be determined by which of the following common factors?*

- a) Location and extent of the fire, time of day, construction class and fire loading, and fixed fire protection systems in the building.
- b) Location and extent of the fire, height and area of the fire building, class of construction, and contents/fire loading of the building.
- c) Location and extent of the fire, height and area of the building, class of construction, and street condition or accessibility to the structure.
- d) Location and extent of the fire, apparatus and staffing responding to the incident, class of construction, and contents/fire loading of the building.

13) *Buildings built on a sloped grade cause an increased life hazard concern to firefighters because:*

- a) A building that is 2 stories in the front may, in fact, be 3 or 4 stories from the rear; this may cause confusion and make fireground management more difficult.
- b) Steep slopes to grade will always preclude deployment of ground ladders to upper stories, placing firefighters searching the upper stories of the building at risk.
- c) Stories that open to a different grade at the rear of the building may confuse hoseline deployment by confusing which level is the 1st floor of the structure; this will make fireground management more difficult.
- d) Steep slopes to grade will make the use of aerial ladders more difficult and dangerous to firefighters.

14) *The categories in the size-up point Terrain include which of the following:*

- a) Setbacks, street width, and buildings built on a grade.
- b) Street width, buildings built on a grade, and setbacks.
- c) General accessibility, street width, and buildings built on a grade.
- d) General accessibility, buildings built on a grade, and setbacks.

15) *Which of the following will influence initial occupant life hazard considerations within a fire building?*

- a) The location and extent of the fire and access to the fire building.
- b) The location of the trapped occupants and access to the fire building.
- c) The location and extent of the fire and the buildings' areas of greatest danger.
- d) The location of the trapped occupants and placement of the first deployed hoseline.

ANSWER KEY

Question #	Answer	Page #
1	b	1
2	c	41
3	c	24
4	b	18
5	d	22
6	b	42, 43
7	c	33, 34
8	a	45
9	d	43
10	b	35, 38
11	c	32
12	b	28
13	a	26
14	d	25
15	c	23