

NHFA FIREFIGHTER I COURSE GUIDE, UNIT 7: BUILDING CONSTRUCTION & UTILITIES

CHAP	SKILL DRILL	SKILL #	STAND. EVOL. #
7	Building Construction Type I Fire Resistive	7-1	
7	Building Construction Type II Non-Combustible	7-2	
7	Building Construction Type III Ordinary	7-3	
7	Building Construction Type IV Heavy Timber	7-4	
7	Building Construction Type V Wood-Frame	7-5	
17	Controlling Natural & Propane Gas Utilities	17-7	
17	Controlling Electrical Utilities	17-23	
17	Controlling Water Utilities	17-24	
17	Controlling Photovoltaic Utilities	17-25	
17	Using a Meter for Flammable Gases	17-22	



**NH FIRE ACADEMY FIREFIGHTER I
UNIT 7, BLOCK 1 (4 HR)**

CLASS NAME: BUILDING CONSTRUCTION & UTILITIES

NUMBER OF INSTRUCTORS: 4

EQUIPMENT NEEDED	<ul style="list-style-type: none"> • Utility Props (Water, Electrical, Natural & Propane gas, Photovoltaic) • Variety of building construction props • Buildings for walk through (type I,II,III, IV, and V) if possible
-------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

FACILITY NEEDED	<p>Area with different Building construction types if possible Area large enough to place Utility props</p>
------------------------	-----------------------------------------------------------------------------------------------------------------

SKILL DRILL REFERENCE	7-1	7-2	7-3	7-4	7-5	17-7	17-23	17-24	17-25	17-22	

GENERAL INSTRUCTION	<p>The Lead Instructor shall divide the class in half. Half of the students will attend a morning session and the other half will attend an afternoon session. Alternative would be two evening sessions.</p>
----------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**NH FIRE ACADEMY FIREFIGHTER I
UNIT 7, BLOCK 1 (4 HR)**

EVOLUTION	DESCRIPTION
Utilities	<p>The Instructor shall demonstrate how to identify, locate, and shut off the following Utilities; Water, Electrical, Propane, Natural Gas, and Photovoltaic. The Instructor shall demonstrate using a multi gas meter to identify flammable gas leaks.</p> <p>The Students shall demonstrate how to identify, locate, and shut off the following utilities; Water, Electrical, Propane, Natural Gas, and Photovoltaic. Students shall demonstrate using a multi gas meter, recognize alarms and react to alarms, and identify leaks of flammable gas. Skill Drill 17-7, 17-23, 17-24, 17-25, and 17-22</p>
Building Tour	<p>Working with the students the Instructor(s) shall identify different types of building construction, their components, features, and the advantages and disadvantages of each type of construction.</p> <p>Note: Tours can be virtual if an actual tour is not possible. If possible an actual tour should be performed.</p> <p>After the tour students shall be able to identify all of the types of building construction, their components, features, and the advantages and disadvantages of each type of construction. Skill Drill 7-1, 7-2, 7-3, 7-4, and 7-5</p>

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 7-1		Building Construction Classification Type I Fire Resistive	
OBJECTIVE:		NFPA 1001, 4.3.4	FEH Chapter: 7
CANDIDATE NAME/NUMBER:			No.:
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]		<ul style="list-style-type: none"> Station Uniform as defined by NHFA Dress Code 	
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS: <i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>		Student will identify the different types of building construction and explain related hazards for each type	
CRITERIA:		NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]	
Critical?		Pass	Fail
	The student has identified the type of building construction		
	Explain hazards related to fire loading		
	Explain hazards related to building collapse and identify warning signs		
	Explain hazards related to roof coverings		
	Identify the effects of fire on various building materials as related to the type of construction		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 7-2		Building Construction Classification Type II Non-Combustible	
OBJECTIVE:	NFPA 1001, 4.3.4	FEH Chapter: 7	
CANDIDATE NAME/NUMBER:		No.:	
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]	<ul style="list-style-type: none"> Station Uniform as defined by NHFA Dress Code 		
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS: <i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>	Student will identify the different types of building construction and explain related hazards for each type		
CRITERIA:	NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]		
Critical?		Pass	Fail
	The student has identified the type of building construction		
	Explain hazards related to fire loading		
	Explain hazards related to building collapse and identify warning signs		
	Explain hazards related to roof coverings		
	Identify the effects of fire on various building materials as related to the type of construction		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 7-3	Building Construction Classification Type III Ordinary		
OBJECTIVE:	NFPA 1001, 4.3.4	FEH Chapter: 7	
CANDIDATE NAME/NUMBER:		No.:	
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]	<ul style="list-style-type: none"> Station Uniform as defined by NHFA Dress Code 		
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS: <i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>	Student will identify the different types of building construction and explain related hazards for each type		
CRITERIA:	NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]		
Critical?		Pass	Fail
	The student has identified the type of building construction		
	Explain hazards related to fire loading		
	Explain hazards related to building collapse and identify warning signs		
	Explain hazards related to roof coverings		
	Identify the effects of fire on various building materials as related to the type of construction		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 7-4	Building Construction Classification Type IV Heavy Timber		
OBJECTIVE:	NFPA 1001, 4.3.4	FEH Chapter: 7	
CANDIDATE NAME/NUMBER:		No.:	
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]	<ul style="list-style-type: none"> • Station Uniform as defined by NHFA Dress Code 		
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS: <i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>	The student will identify the different types of building construction and explain related hazards for each type		
CRITERIA:	NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]		
Critical?		Pass	Fail
	The student has identified the type of building construction		
	Explain hazards related to fire loading		
	Explain hazards related to building collapse and identify warning signs		
	Explain hazards related to roof coverings		
	Identify the effects of fire on various building materials as related to the type of construction		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 7-5		Building Construction Classification Type V Wood-Frame	
OBJECTIVE:	NFPA 1001, 4.3.4	FEH Chapter: 7	
CANDIDATE NAME/NUMBER:		No.:	
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]	<ul style="list-style-type: none"> Station Uniform as defined by NHFA Dress Code 		
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS: <i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>	The student will identify the different types of building construction and explain related hazards for each type		
CRITERIA:	NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]		
Critical?		Pass	Fail
	The candidate has identified the type of building construction		
	Explain hazards related to fire loading		
	Explain hazards related to building collapse and identify warning signs		
	Explain hazards related to roof coverings		
	Identify the effects of fire on various building materials as related to the type of construction		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 17-7		Controlling Natural & Propane Gas Utilities	
OBJECTIVE:		NFPA 1001, 4.3.18	FEH Chapter: 17
CANDIDATE NAME/NUMBER:			No.:
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]		<ul style="list-style-type: none"> • PPE • SCBA 	
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS:		The student will shut off various utilities.	
<i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>			
CRITERIA:		NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]	
Critical?		Pass	Fail
	When assigned the task of controlling gas utilities, first don all appropriate PPE, including SCBA.		
	Use Multi Gas Meter to determine LEL		
	Locate the exterior gas shutoff valve. Using a tool, turn the valve to the off position.		
	Inform the IC that the utilities have been secured.		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 17-23		Controlling Electrical Utilities	
OBJECTIVE:		NFPA 1001, 4.3.18	FEH Chapter: 17
CANDIDATE NAME/NUMBER:			No.:
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]		<ul style="list-style-type: none"> • PPE • SCBA 	
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS:		The student will shut off various utilities.	
<i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>			
CRITERIA:		NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]	
Critical?		Pass	Fail
	When assigned the task of controlling gas utilities, first don all appropriate PPE, including, if necessary, SCBA.		
	Locate the exterior electrical panel. Using a gloved hand, turn the master switch to the off position.		
	Inform the IC that the utilities have been secured.		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 17-24		Controlling Water Utilities	
OBJECTIVE:		NFPA 1001, 4.3.18	FEH Chapter: 17
CANDIDATE NAME/NUMBER:			No.:
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]		<ul style="list-style-type: none"> • PPE • SCBA 	
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS:		The student will shut off various utilities.	
<i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>			
CRITERIA:		NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]	
Critical?		Pass	Fail
	When assigned the task of controlling gas utilities, first don all appropriate PPE, including, if necessary, SCBA.		
	Locate the water meter for the property. Using a tool, turn the meter to the off position.		
	Inform the IC that the utilities have been secured.		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 17-25		Controlling Photovoltaic Utilities	
OBJECTIVE:		NFPA 1001, 4.3.18	FEH Chapter: 17
CANDIDATE NAME/NUMBER:			No.:
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]		<ul style="list-style-type: none"> • PPE • SCBA 	
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS:		The student will shut off various utilities.	
<i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>			
CRITERIA:		NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]	
Critical?		Pass	Fail
	When assigned the task of controlling gas utilities, first don all appropriate PPE, including, if necessary, SCBA.		
	Locate the exterior electrical panel. Using a gloved hand, turn the master switch to the off position.		
	Inform the IC that the utilities have been secured.		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON REGARDING WHAT THE STUDENT ACCOMPLISHED]			
EVALUATOR SIGNATURE:			
STUDENT SIGNATURE:			

FIRE ENGINEERING'S HANDBOOK FOR FIREFIGHTER I & II
Instructor Curriculum Skill Evaluation Sheet

SKILL SHEET 17-		Meter for flammable gases	
OBJECTIVE:		NFPA 1001, 4.3.21	FEH Chapter: 17
CANDIDATE NAME/NUMBER:			No.:
TEST DATE/TIME			
EQUIPMENT REQUIRED: [Add local requirements if needed]		<ul style="list-style-type: none"> Atmospheric Monitor or trainer with LEL sensor. 	
EVALUATOR INSTRUCTIONS			
CANDIDATE INSTRUCTIONS: <i>NOTE: The evaluator will read the following exactly as it is written to the candidate</i>		Given a running and zeroed Atmospheric Monitor the student will monitor the atmosphere of a given location for flammable hazards and verbalize actions to be taken.	
CRITERIA:		NOTE: Based on material from the Skill Drill Instructor Guides [ADDITIONAL LINES FOR AHJ TO ADD OTHER MATERIAL]	
Critical?		Pass	Fail
	Student will monitor high medium and low at a pace allowing the meter to respond.		
	Student will verbalize actions to take when the meter enters the alarm.		
EVALUATOR COMMENTS: [ANY COMMENTS PRO OR CON]			
EVALUATOR SIGNATURE:			

STUDENT SIGNATURE:	
---------------------------	--