

NFPA 86 Training Requirements

NFPA 86 (2015 Edition) – Standard for Ovens and Furnaces

- 7.2.1*** Personnel who operate, maintain, or supervise the furnace shall be thoroughly instructed and trained in their respective job functions under the direction of a qualified person (s).
- 7.2.2** Personnel who operate, maintain, or supervise the furnace shall be required to demonstrate an understanding of the equipment, its operation, and practice of safe operating procedures in their respective job functions.
- 7.2.3** Personnel who operate, maintain, or supervise the furnace shall receive regularly scheduled refresher training and shall demonstrate understanding of the equipment, its operation, and practice of safe operating procedures in their respective job functions.
- 7.2.4** The training shall cover startup, shutdown, and lockout procedures in detail.
- 7.2.5** The training program shall be kept current with changes in equipment and operating procedures, and training materials shall be available for reference.

NFPA 86 Testing Requirements

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- 7.4.4** All safety interlocks shall be tested for function at least **annually**.
- 7.4.5*** The set point of temperature, pressure, or flow devices used as safety interlocks shall be verified at least **annually**.
- 7.4.6** Safety device testing shall be documented at least **annually**.
- 7.4.9*** Valve seat leakage testing of safety shutoff valves and valve proving systems shall be performed in accordance with the manufacturer's instructions. **7.4.9.1** Testing frequency shall be at least **annually**.
- 7.4.12*** Lubricated manual shutoff valves shall be lubricated and subsequently leak tested for valve closure at least **annually**.
- 7.4.18** An inspection shall be completed at least **annually** to verify that all designed safety interlocks are present and have not been bypassed or rendered ineffective.

Interlocks and Safety Devices to Be Tested:

The table below is a list of the common interlocks that are referenced throughout NFPA 86 which would fall under the annual testing requirement for a single zone oven or furnace with a single burner.

Table A: NFPA 86 - Standard Interlocks to Test

Gas Train – Burner			Motor Starter Contact Relays			Oven Interlocks		
1	Low Gas Pressure	21	Ventilating Fan Interlock	33	Purge Air Proving			
2	High Gas Pressure	22	Combustion Air Fan	34	Minimum Combustion Air			
3	Pilot Low Gas Pressure	23	Exhaust Fan	35	Low Fire Proving			
4	Pilot High Gas Pressure	24	Recirculation Fan	36	High Fire Proving			
5	Tightness Tests			37	Operating Temperature			
6	<i>Main Gas Shutoff Valve</i>			38	Excess Temperature Limit			
7	<i>Safety Shutoff Valve</i>		<u>Burner Management Logic</u>	39	Instrument Air			
8	<i>Vent Valve</i>	25	Purge Time	40	Low Furnace Pressure			
9	<i>Blocking Valve</i>	26	Pilot Trail For Ignition	41	High Furnace Pressure			
10	<i>Downstream Manual Valve</i>	27	Main Trail For Ignition	42	Cooling Water Interlock			
11	<i>Pilot Manual Gas Shutoff Valve</i>	28	Pilot Spark Pick-up					
12	<i>Pilot Safety Shutoff Valve</i>	29	Door Switches (Purge/Light-off)					
13	<i>Pilot Vent Valve</i>	30	Post-Purge Time					
14	<i>Pilot Blocking Valve</i>	31	Burner Stop					
15	SSOV Slow Closure	32	Emergency Stop					
16	BV Slow Closure							
17	Proof of Closure - SSOV							
18	Proof of Closure - BV							
19	1400°F Bypass Interlock							
20	Flame Sensing							

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