

# Zero-Clearance Stand-Offs

The fireplace has zero-clearance stand-offs fastened to the body of the fireplace as shown in the figures below. Stand-offs must be fully extended upon installation.

<u>Heat Shield</u>: Attached to the top front part of the fireplace. It is foldable at the attachment site on top of the fireplace and  $^{2}$ /<sub>3</sub> to the top of the shield. The heat shield serves to direct the heat coming out the of the heat barrier vents at the top of the fireplace and maintains clearance to the vent pipe.

<u>Side & Back Framing Stand-offs</u>: Attached to the sides and back of the fireplace. These stand-offs keep enough distance from the fireplace to the framing to allow for proper airflow inside the chase. These stand-offs can directly touch combustible framing.

<u>Top Framing Stand-offs</u>: Attached to the front top portion of the fireplace above the glass viewing area. It keeps a clearance above the heat barrier vents on the top of the fireplace to ensure proper air flow inside the chase. The top of this stand-off can directly touch combustible framing. Any framing in front of the stand-off must be non-combustible.

**Protective Cover**: Attached under the bottom front part of the fireplace to protect the double glass fans during shipping and installation. This cover is present on double glass models only. Screen models do not come with a protective cover.



# **Prior to Installation**

## Locate the Fireplace

Keep the following factors in mind when selecting a location for the fireplace:

- Fireplace clearance requirements (review "General Clearances" section on page 15).
- Heat release and air intake requirements (review "Heat Release" section on page 16 and "Air Intake Opening" section on page 18).
- Adequate space for servicing.
- Access panel recommendations (review "Access Panel" section on page 22).
- Minimum vertical vent rise, allowed horizontal lengths, and number and orientation of elbows (review "Venting" section on page 28).
- Framing and finishing requirements (review "Framing" section on page 11 and "Finishing" section on page 26).
  - Front wall installation and finishes to be completed after fireplace and vent installation (review "Step-by-Step Chase Construction" section on page 25).
- Floor or Platform requirements (review "Chase Floor/Platform" section on page 11).

# **Fireplace Installation**

Use the following guidelines to ensure a smooth installation. The installation sequence is divided into three phases: Planning, Installation, and Startup.

# First Trip to Site: Planning

Consult with the contractor and go over all requirements:

- Chase framing requirements.
- <sup>5</sup>/<sub>8</sub>" Type X Drywall (or equivalent) requirements.
- Heat release requirements.
- Air Intake requirements (if applicable).
- Access panel size and location.
- Gas and electrical specs and location.
- Vent configuration.
- Finishing details.

NOTE: Provide the contractor with a printed copy of the "Building Checklist" and review requirements with them.

## Second Trip to Site: Installation

- Confirm the following items are properly located and built to specification:
  - Framing (with <sup>5</sup>/<sub>8</sub>" Type X Drywall as applicable)
    - Platform
    - Gas and electrical
    - Access panel (if applicable)
    - Heat release
  - Air intake (if applicable)
  - Clear a path free of any possible obstruction to carry in the fireplace.
- Uncrate the fireplace and set in place.
- Make sure all zero-clearance metal stand-offs on the outside of the fireplace are fully extended.
- Secure the fireplace to the framing by attaching the nailing flanges to the framing. See "Securing the Fireplace" section on page 9.
- Remove all zip ties.

- Optional: Remove gas and electrical components from metal shipping plate if desired.
- Move the components to the access panel location. Be mindful of the routing for future service needs.
- Install the vent components. See "Vent Installation" section on page 9.
- Review the front wall requirements (see "Step-by-Step Chase Construction" section on page 25) and finishing details with the contractor.
- Protect the fireplace and components from damage.

## Securing the Fireplace

The fireplace has nailing flanges attached to the face of the fireplace (see figures below). The nailing flanges are to be attached into the framing upon installation. It is crucial to the finishing that the fireplace is stable, level, and plumb. For added stability (though not required), re-use the shipping brackets to secure the legs of the fireplace to floor/platform.



## Vent Installation

Venting must be installed according to the requirements detailed in the "Venting" section of this manual (page 28) in conjunction with the vent system manufacturer's installation instructions. Venting must be supported by the structural surrounding and not by the fireplace. Each elbow must be strapped to reduce movement or possible disconnection.

The first section of venting must be secured to the fireplace starter collar with a minimum of 3 sheet metal screws no longer than 1/2". DO NOT use silicone to seal the sections. If sealing is required by the vent manufacturer or local code, use Mil-Pac sealant.

## Third Trip to Site: Startup

- Perform a visual inspection to confirm that all work was completed correctly and per specification.
- Confirm that gas and electrical are properly connected and live.
- Remove the safety barrier and glass and clean the inside of the fireplace.
- Place interior design media as specified in the "Interior Design Media" section on page 46.
- Confirm media placement is set up per specification.
- Confirm the fireplace is operating properly.
- Check remote-control setup.
- Remove protective layer from glass.
- Clean glass.
- Reinstall the glass and safety barrier.
- Review operation of the fireplace and remote control with the owner.
- Set up return visit to clean glass after the Initial Burning Period (see "Post-Installation" section below).

# **Post-Installation**

Complete the following post-installation steps upon 4<sup>th</sup> trip to site.

## **Initial Burning Period**

There is a 12-hour minimum burning period following installation of the fireplace. This 12-hour period must include a minimum of 4 consecutive hours of continuous burning. During this time, the owner or installer may notice:

- The glass developing a white or "cloudy" residue.
- An unusual smell

Both the residue and the smell are due to the paint on the fireplace metal heating and "burning off". This is normal. The cloudiness and odor will disappear after the 12-hour period elapses and the installer returns to service the fireplace and complete startup.

## **Final Inspection Procedure**

When the 12-hour burning period is complete, the installer must return and perform the final inspection, which includes:

- Cleaning the glass with a ceramic glass cleaner (otherwise the white residue will remain)
  - Checking the interior media setup
- Checking for gas leaks
- Adjusting the restrictor (if necessary)
- Performing an overall check to make sure that everything is working properly.

When these activities are complete, initial startup is concluded and the fireplace may be operated by the owner.

## **Final Checks and User Instruction**

Before releasing the fireplace to the customer for use without installer supervision, the installer must ensure that the fireplace is burning correctly. In addition, the installer must review and explain the following to the owner:

- Safety warnings
- Fireplace operation
- Warranty requirements
- Maintenance requirements
- Glass is hot during and after operation.
- If any questions or concerns arise, owner must contact the local Ortal dealer/installer for support.

# **Building Checklist**

The following building checklist is a quick reference for a typical 51 series fireplace installation. This list is not exhaustive and does not supplement thorough review of the installation manual.

- ☑ **Fireplace Location:** Ensure the location allows for min. 40" clearance from viewing area to furniture and other combustibles. Make sure a clear path is established to allow the fireplace to be safely transported to installation location.
- Exhaust Vent: Confirm vent size (5"x8", or 3"x5" for Power Vent), vent clearance (1" on sides and bottom, 3" on top), vent configuration, and termination location.
- ☑ **Height from Floor:** Fireplace leg height is 9  ${}^{13}/{}_{16}$ " (to bottom viewing area). Legs cannot be removed/altered. If desired viewing area location on the wall is higher than 9  ${}^{13}/{}_{16}$ ", a platform can be built for the fireplace to stand on.
- ☑ **Chase Floor/Platform:** Fireplace can stand on the chase floor or a platform. Floor or platform must be able to bear the weight of the fireplace. It can be constructed out of wood, concrete, metal, or any other solid materials (not required to be non-combustible).
- ☑ Chase Construction: No materials can be attached directly to the fireplace (exception: <sup>5</sup>/<sub>8</sub>" Type X Drywall). The area of the chase interior must be min. 120 square inches at any given point within the chase.
- Framing: Adhere to minimum framing dimensions (or greater). The first 10<sup>7</sup>/<sub>16</sub>" above the top of the fireplace viewing area must always be non-combustible framing. For recessed fireplaces, do not exceed 12" max. front overhang depth limit. For Corner and TS models, side overhang has no limit. No material is permitted to extend past the metal lip surrounding the fireplace viewing area.
- ✓ <sup>5</sup>/<sub>8</sub>" Type X Drywall Requirements: One layer of <sup>5</sup>/<sub>8</sub>" Type X Drywall (or equivalent) must be installed on the exterior of the chase framing. <sup>5</sup>/<sub>8</sub>" Type X Drywall (or equivalent) may be fastened to the top framing stand-off(s) only, with 1" self-tapping drywall screws 16" on center.
- ☑ TV/Artwork: TV/Art must be min. 4" above top of fireplace viewing area for flush-mounted TVs, and 12" for TVs recessed into the wall. First 10<sup>7</sup>/<sub>16</sub>" min. above the viewing area must have non-combustible framing (top front metal stand-off + non-combustible studs).
- ☑ **Gas Supply Line and Power Location:** Locate gas line with manual shut off according to local code. Power provided by a duplex outlet receptacle (120V, 15 amp, 60Hz) in same area as gas line.
- ☑ Access Panel: An access panel is highly recommended to access gas and electrical components for servicing. Depending on the model, access panel can be placed at side or back of the fireplace within 3 feet of the pilot. Access panel, or some other form of clear access to the chase, is required for power-vented fireplaces. Size recommendation: as large as possible depending on application. Min. recommended size 10"x10".
- Heat Release: Crucial for Cool Wall Technology. Must start within 6" (max.) from the chase's ceiling. Min. heat release size is 120 sq.in. of net free air space. Height of the heat release must not exceed 1/3 of the width.
- Air Intake: Only required for double glass heat barrier. Must be located at or below level of double glass fans. Min. 124 sq.in. of net free air space.
- $\square$  **Finishing:** For finishes flush to the fireplace, no clearances are required. For finishes where the fireplace is recessed to the finish, maintain  $\frac{1}{8}$ " from the finish to the front face of the fireplace.

## Framing

## **Framing Requirements**

Fireplace chase may be framed with either combustible (typically wood studs) or non-combustible framing (typically metal studs). Any framing within  $10^{7/16}$ " from the top of the fireplace glass (viewing area) must be non-combustible. Any framing after that point may be combustible.

The framing of the fireplace chase must be designed to carry the entire weight of the wall and finish material. Surrounding material must not transfer weight to the fireplace or be connected in any way to the fireplace, with the exception of 5/8" Type X drywall or its equivalent. 5/8" Type X drywall may be fastened to the *top framing stand-offs only*, with 1-inch self-tapping drywall screws 16 inches on center.

No material is permitted to extend past the <sup>5</sup>/<sub>8</sub>" deep metal drywall lip surrounding the fireplace viewing area. This area must be unobstructed to allow the heat barrier and inside glass panel to be removed.

See next page for "Framing Dimensions" section.

## <sup>5</sup>/<sub>8</sub>" Type X Drywall Requirements

Exterior of the framing must be covered with  $\frac{5}{8}$ " Type X Drywall (or equivalent). Chase interior does not require a layer of  $\frac{5}{8}$ " Type X Drywall. This applies to both combustible and non-combustible framing.



UNOTE: 5/8" Type X Drywall (or equivalent) is not required on the exterior portion of an insulated outside-facing wall.

## **Chase Floor/Platform**

The fireplace must be installed on a flat, solid, continuous surface. Surface can be wood, concrete, metal, and other typical solid floor types. Surface material is not required to be non-combustible.

Fireplace leg height is 9  $^{13}/_{16}$ ", measured to the bottom viewing area. Legs cannot be removed, cut, or adjusted.

**Raised Platform Option:** To raise the fireplace higher than 9  $^{13}/_{16}$ " height, build a platform for the fireplace to stand on. Platform must be stable and able to bear the full weight of the fireplace. Platform can be constructed out of wood, concrete, metal, or any other solid materials. Platform material is not required to be non-combustible.



UNOTE: For fireplaces with the double glass heat barrier, an air intake might be necessary to incorporate into the platform depending on the design. See "Air Intake for a Platform" section on page 19 for details.

# **Framing Dimensions**

The following framing information applies to combustible and non-combustible framing material. The diagrams presented are for illustrative purposes only. There are multiple approved framing scenarios. A flush application is not the only permitted application. The fireplace may be recessed into the wall. Refer to diagrams and values below and in the following pages for details.



Framing		
Fireplace	51 F	51H F
A: Height	35 <sup>3</sup> /4"	41 <sup>11</sup> / <sub>16</sub> "
B: Length	59 <sup>5</sup> /8"	59 <sup>5</sup> / <sub>8</sub> "
C: Depth	21 <sup>5</sup> /8"	21 <sup>5</sup> /8"
V: Firestop	Refer to pipe manufacturer's firestop dimensions	



## **General Clearances**

## Viewing Area Clearance Zone

The viewing area clearance zone is an area that extends perpendicular from the fireplace viewing area. The depth of the viewing area clearance zone depends on the combustibility of the material in question. Distance is measured from the fireplace heat barrier.



Materials (including combustible flooring and combustible finish material) are permitted below and around the viewing area clearance zone.

UPORTANT NOTE: When placing material near the glass, take care to consider fireplace serviceability. It is strongly recommended that any items/materials placed in front of the front (long) glass be movable for easy access to the fireplace during servicing.

## Clearance to a Side Wall

The fireplace viewing area is zero-clearance to a side wall. A side wall is defined as a wall that meets the viewing area at a 90° angle.



#### = Building Material

The temperature on the side wall can get as high as 150°F above ambient temperature. While the fireplace certification allows for this temperature variance, building and finish materials will have their own limitations. Consult the material manufacturer to ensure the material can safety withstand this temperature range.

This information does not apply to a wall that is constructed in front of the viewing area. For materials that will be in front of a main or side viewing area, please refer to the "Viewing Area Clearance Zone" section above.

#### Maximum Overhang Depth

Overhang depth of a recessed fireplace must not exceed **12** inches. Overhang depth is measured from the edge of the fireplace lip to the out-most part of the wall (including finish material). Side overhang has no limit. Finish material on the underside of the overhang may be combustible or non-combustible.

Bottom recess (or "hearth extension") has no minimum or maximum depth requirement. If bottom recess depth exceeds 12 inches, ensure the structure is capable of supporting the weight of a fireplace technician for servicing.



# **Heat Release**

A heat release is an opening in the fireplace chase that allows the heat inside the chase to passively circulate into an interior room. This heat is generated convectively as the fireplace heats up. It is separate from exhaust heat produced in the combustion chamber of the fireplace. For safety purposes, a **heat release is required** in order to keep the wall around the fireplace cool. Heat release requirements are the same for all 51 series models.

## Heat Release Requirements

- The heat release must be located at or near the top of the fireplace chase and start within 6 inches (0-6 inches max) of the chase ceiling/firestop. It can start at the chase ceiling. It can be located on the front, sides or back of the chase. It can be released into any interior space that shares a wall with the chase.
- Minimum heat release size requirement depends on heat release orientation:

Fireplace Series	Horizontal Heat Release	Vertical Heat Release	
51	Minimum 120 sq. in. of free air space	Minimum 156 sq. in. of free air space	

- For horizontal heat releases only, the height of the heat release must not exceed 1/3 of the width. (This does not apply to vertical heat releases.)
- The space the heat release vents into must have a minimum volume of 184 ft<sup>3</sup>.
  - The heat release can be in the form of (but not limited to) a louvered ventilation grille, gap, or reveal.
    - For louvered/perforated ventilation grilles, the net free air space allowed in the louvered area must be equal or
      greater than the minimum number of square inches required per fireplace.
- The interior area of the narrowest part of the fireplace chase (in square inches) must never be less than your required heat release size (see "Chase Area Minimum" section on page 22 for details).
- The heat release cannot be vented outdoors or to an unconditioned space.

#### NOTE: An angled heat release is not permitted.

The following diagrams are examples of potential heat release options. These drawings serve as illustrative purposes only.

#### Horizontal Heat Release





#### Vertical Heat Release: Split Front

The heat release is oriented vertically and split between the two sides of the chase.

<u>Vertical Heat Release: Full Side</u> The heat release is oriented vertically. Entire heat release is on one side of the fireplace chase.



Split Front Vertical Heat Release

Full Vertical Heat Release on One Side

#### Sprinkler Clearance to Heat Release

In a situation where a sprinkler head is near the heat release, the sprinkler head must be minimum 24 inches (linear length) from every point of the heat release opening.



# **Air Intake Opening**

For fireplaces with a double glass heat barrier only, an air intake opening must be incorporated into the framing and finish around the fireplace. The air intake opening is essential to maintain cool air flow between the double glass panels by allowing the double glass fans to circulate room air through the glass panels and up into the chase. The opening must meet the minimum size requirement, as stated in the table below.

Fireplace Series	Air Intake Opening Size
51	Minimum 124 sq. in. of free air space

The air intake opening can be finished in the form of a louvered ventilation grille, gap, or toe-kick (reveal). For louvered ventilation grilles, the net free air space allowed in the louvered area must be equal or greater than the minimum number of square inches required per fireplace.

The entire air intake opening must be located at or below the level of the double glass fans. The air intake is not required to be on the front wall of the fireplace. The air intake cannot be on a wall that allows air from outside the house directly into the fireplace chase. Air must be from a conditioned space. Air flow must be able to get to the double glass fans through the air intake slots in the protective cover(s) at the bottom of the fireplace.





• NOTE: Please refer to the "Chase Floor/Platform" section on page 11 for details on platform construction.

# Mounting a TV/Artwork

Ortal's Cool Wall Technology is a technique that reduces the convective heat from the fireplace and prevents heat buildup inside the fireplace chase, mitigating any damage that may result from the wall reaching high temperatures. Ortal's Cool Wall system enables the option of safely installing artwork, a TV, or other similar electronic components above the fireplace by reducing the wall temperature above the fireplace.

Location	Wall Temperature
0-6 inches above fireplace	100°F - 120°F
6-12 inches above fireplace	90°F - 100°F
12 inches above fireplace	80°F - 90°F

Maintain the following general requirements to mount a TV or artwork above the fireplace and prevent heat damage:

- Mount the TV or artwork at the minimum clearance above the top of the fireplace viewing area. Minimum clearance amount depends on flush or recessed installation. See sections below for more information.
- Wires inside the chase are not permitted to cross over the fireplace. Wires must be installed against a wall.

The decision to install a television above an Ortal fireplace is up to the discretion of the owner. TV and art manufacturers may specify that their product should not be installed on, near or above a heat source. Ortal will not be held liable for any adverse effects on a TV, artwork or other equipment located near the Ortal fireplace. It is the owner's responsibility to verify that their TV or artwork can withstand the wall temperatures as outlined in the above wall temperature chart.

The following diagrams can be used as a guide for customers who do decide to locate their TV and artwork above their Ortal fireplace. These drawings illustrate ways of reducing the amount of heat impact to the area surrounding the fireplace.

### Flush Mounted TV/Artwork

When the TV is mounted on a wall that is flush to the fireplace, the TV must be at least **4 inches** from the top of the fireplace glass viewing area. Ensure all clearances are maintained. See diagram below for details.



LEGE	ND
	$\frac{5}{8}$ " Type X Drywall

## Recessed TV/Artwork

When the TV is mounted on a wall that recesses over fireplace, the TV must be at least **12 inches** from the top of the fireplace glass viewing area.

At 12 inches above the fireplace viewing area, maximum possible recess is 5 inches. A deeper recess will interfere with required clearances to venting. Maximum possible recess increases at <12 inches above the viewing area when venting is offset (as shown in diagram below).



PNOTE: Vent clearances must be maintained. See "Vent Clearances" section on page 31 for details.

# Access Panel

An access panel is not required (see note below for exception), but it is highly recommended. It allows for access to the fireplace's gas and electrical components for servicing.

#### NOTE: An access panel at the fireplace is required for fireplaces with a power vent to allow access to the power vent control box for servicing.

Access Panel Size and Location Recommendations:

- Size: as large as possible depending on application. Minimum is 10"x10". .
  - Located within 36 inches of the pilot to the side or back of the fireplace (see "Routing the Gas Line")

The size and location of the access panel may vary, but in all cases, it must allow the technician to comfortably access and service the fireplace's gas and electrical components. These components are attached to the pilot on a flexible gas line and can be moved within 36 inches of the pilot (located at the center front of the burner) to the side or back of the fireplace.

For ease of access, move the fireplace's gas and electrical components as close to the access panel as possible. If there is any distance between the access panel and the gas and electrical components, the access panel size must be increased accordingly. Prior to installation, fireplace dealers/installers should work with the owner, builder, project architects and/or interior designers to determine the best size and location of their access panel.

If an access panel cannot be incorporated, the alternative method of servicing the gas and electrical components is though the fireplace. This procedure requires removing the glass panel(s) and interior design media, and lifting the grill, burner, and bottom pressure release valve. This will increase service time and difficulty. An access panel is always preferred. Fireplace dealers/installers are advised to consult with their clients regarding the advantages and disadvantages of each service option.

### NOTE: If local code requires an access panel, defer to local code requirements.

#### Protective Cover for Double Glass Fans

Fireplaces with the double glass heat barrier comes equipped with a bottom cover to protect the fans from damage. This protective cover blocks service access to gas and electrical components. The protective cover is installed under the front and sides of the fireplace.

The gas and electrical components are accessible in the following locations on each model (as shown in the table below).



Double Glass	Access Location			
Model	Right	Left	Back	Front
Front	$\checkmark$	$\checkmark$	$\checkmark$	
Left Side (LS)	$\checkmark$		$\checkmark$	
Right Side (RS)		$\checkmark$	$\checkmark$	
Three Side (TS)			$\checkmark$	

NOTE: Access location is referenced from a front elevation viewpoint.

## Chase Area Minimum

The narrowest part of your fireplace chase cannot be smaller than the minimum required heat release size (see "Error! Reference source not found." on page Error! Bookmark not defined.). This ensures the convective heat within the chase passively moves to the heat release at an optimal rate. To determine if your chase meets this requirement, use the following equation at the narrowest part of the chase.

#### Chase Area = (Chase Length x Chase Depth) – (Area of the Pipe)



Fireplace Chase (Top View)

Cover

If the heat release is split into 25/75 portions due to an oversized ledge, the chase only needs to be the size of 75% of the heat release because 25% of the heat is already being released at the ledge (see "Recessed Ledge Detail" section on page 23 for details.)

## **Recessed Ledge Detail**

A ledge over the top of a fireplace that is less than 24 inches from the top of the fireplace viewing area must maintain a minimum of **12 inches from the top of the viewing area to the top of the framing**. Entire structure must be non-combustible (framing and finish).



A = ledge depth, B= ledge width (Top View)

#### **Oversized Ledge**

If ledge surface area exceeds 340 sq. in., the heat release must be divided between the ledge and the chase ceiling: 25% at the ledge and 75% at the chase ceiling.

UNOTE: Chase area minimum requirements must be met throughout the entire fireplace chase. See "Chase Area Minimum" section above for details.



# **Structural Weight Support**

The fireplace must not carry any structural weight. The framing must be supported by another surface. Consult with the project structural engineer and refer to your local building codes for proper wall support.

The following drawing shows a recommended approach to this type of installation. Please note that these drawings are not to scale. All fireplace drawings with correct dimensions are available on the Ortal website.



# Finishing

The following diagrams show various finish applications. Diagrams apply to both combustible and non-combustible finish material.

IMPORTANT NOTES:

- All recessed installations must comply with applicable maximum overhang limit and side wall clearances. See "Maximum Overhang Depth" and "Clearance to a Side Wall" sections on page 15 for details.
- No material is permitted to extend past the metal lip surrounding the fireplace viewing area. This area must be unobstructed to allow the heat barrier and inside glass panel to be removable.
- MANUFACTURED STONE: A minimum 2-inch recess is suggested. Consult stone manufacturer for clearance requirements.
- <sup>5</sup>/<sub>8</sub>" DensGlass® Fireguard® Sheathing is an approved <sup>5</sup>/<sub>8</sub>" Type X Drywall equivalent. This may be necessary for use with heavier finishes.

WARNING: Wood finish or floor/hearth extension may dry out, crack, warp or become discolored over time. Consult with floor manufacturer for required clearances to a heat source.

## **Flush Installation**

Diagram applies to both combustible and non-combustible finish material.



LEGEND		
	$\frac{5}{8}$ " Type X Drywall	
	Finish	

# **Recessed Installation**

**Diagram applies to both combustible and non-combustible finish material.** The finish must maintain at least a <sup>1</sup>/<sub>8</sub>" clearance to the fireplace to both the top and bottom recesses.



#### Maximum Overhang Depth

Overhang depth of a recessed fireplace must not exceed **12** inches. Overhang depth is measured from the edge of the fireplace lip to the out-most part of the wall (including finish material). Side overhang has no limit. Finish material on the underside of the overhang may be combustible or non-combustible.

Bottom recess (or "hearth extension") has no minimum or maximum depth requirement. If bottom recess depth exceeds 12 inches, ensure the structure is capable of supporting the weight of a fireplace technician for servicing.











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