

## ICC-ES Evaluation Report

## ESR-3760 FBC Supplement

Reissued March 2018

This report is subject to renewal March 2020.

[www.icc-es.org](http://www.icc-es.org) | (800) 423-6587 | (562) 699-0543 A Subsidiary of the International Code Council®

DIVISION: 08 00 00—OPENINGS  
Section: 08 95 43—Vents/Foundation Flood Vents

### REPORT HOLDER:

FLOOD SOLUTIONS, LLC  
ONE INDUSTRIAL PARK DRIVE  
BUILDING 27  
PELHAM, NEW HAMPSHIRE 03076  
(800) 325-9775  
[www.floodsolutions.com](http://www.floodsolutions.com)  
[info@floodsolutions.com](mailto:info@floodsolutions.com)

### EVALUATION SUBJECT:

#### STATIC FLOOD VENTS

#### 1.0 REPORT PURPOSE AND SCOPE

##### Purpose:

The purpose of this evaluation report supplement is to indicate that Flood Solutions' flood vents, recognized in ICC-ES master evaluation report [ESR-3760](#), have also been evaluated for compliance with the codes noted below.

##### Applicable code editions:

- 2017 Florida Building Code—Building
- 2017 Florida Building Code—Residential

#### 2.0 CONCLUSIONS

The Flood Solutions flood vents, described in Sections 2.0 through 7.0 of the master evaluation report [ESR-3760](#), comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design and installation are in accordance with the 2015 *International Building Code*® provisions noted in the master report.

Use of the Flood Solutions' flood vents has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential*.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report, reissued March 2018.

7.0 IDENTIFICATION

The Flood Solutions static flood vents recognized in this report must be identified by a label bearing the

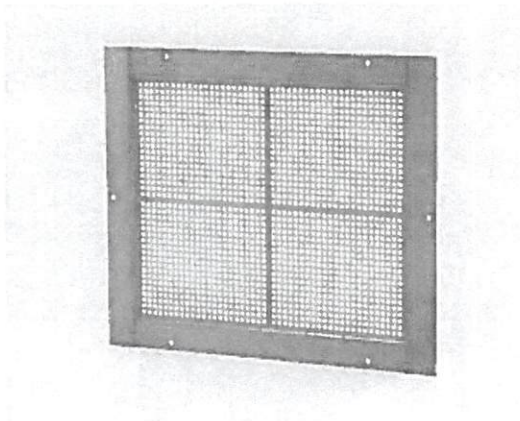
manufacturer's name (Flood Solutions), the model number, and the evaluation report number (ESR-3760).

TABLE 1—FLOOD SOLUTIONS STATIC FLOOD VENTS

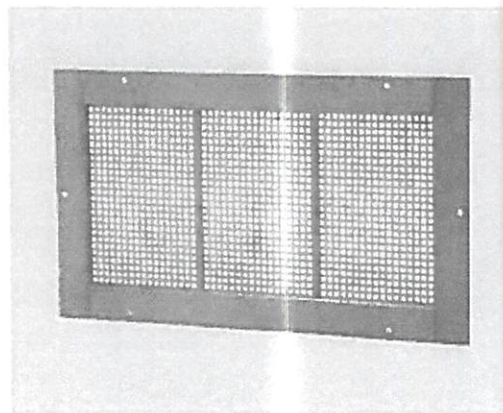
MODEL	VENT SIZE (Width x Height) (in)	ROUGH OPENING SIZE (Width x Height) (in)	ENCLOSED AREA COVERAGE (ft <sup>2</sup> )	NET FREE AREA <sup>1</sup> (in <sup>2</sup> )
FS-1608	18 <sup>1</sup> / <sub>2</sub> x 10 <sup>1</sup> / <sub>2</sub>	16 x 8	97	80.7
FS-1616	18 <sup>1</sup> / <sub>2</sub> x 18 <sup>1</sup> / <sub>2</sub>	16 x 16	191	158.2
FS-1412	17 x 14 <sup>1</sup> / <sub>2</sub>	14 <sup>1</sup> / <sub>2</sub> x 12	129	106.7
FS-1608-Hex	18 <sup>1</sup> / <sub>2</sub> x 10 <sup>1</sup> / <sub>2</sub>	16 x 8	110	91.4

For SI: 1 inch = 25.4 mm; 1 ft = 304.8 mm

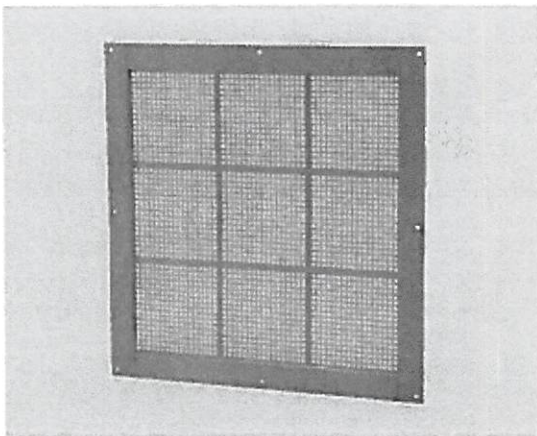
<sup>1</sup>Available for use as under-floor ventilation.



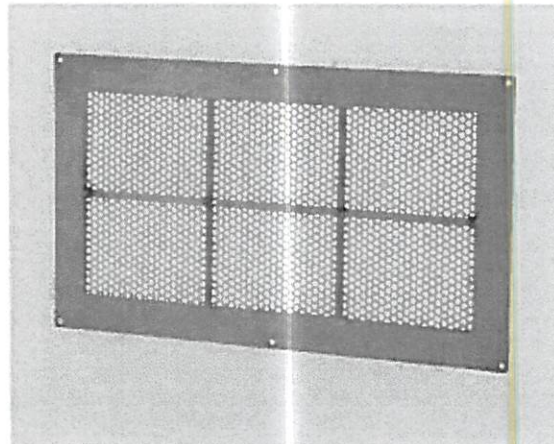
FS-1412



FS-1608



FS-1616



FS-1608-HEX

FIGURE 1—FLOOD SOLUTIONS STATIC FLOOD VENTS

## ICC-ES Evaluation Report

ESR-3760

Reissued March 2018

This report is subject to renewal March 2020.

[www.icc-es.org](http://www.icc-es.org) | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 08 00 00—OPENINGS  
Section: 08 95 43—Vents/Foundation Flood Vents

## REPORT HOLDER:

FLOOD SOLUTIONS, LLC  
ONE INDUSTRIAL PARK DRIVE  
BUILDING 27  
PELHAM, NEW HAMPSHIRE 03076  
(800) 325-9775  
[www.floodsolutions.com](http://www.floodsolutions.com)  
[info@floodsolutions.com](mailto:info@floodsolutions.com)

## EVALUATION SUBJECT:

## STATIC FLOOD VENTS

## 1.0 EVALUATION SCOPE

## Compliance with the following codes:

- 2018, 2015, 2012 and 2009 *International Building Code*
- 2018, 2015, 2012 and 2009 *International Residential Code*

## Property evaluated:

Water flow

## 2.0 USES

Flood Solutions' static flood vents are used to provide for the equalization of hydrostatic flood forces on exterior walls.

## 3.0 DESCRIPTION

## 3.1 General:

Flood Solutions' static flood vents are engineered, permanently open flood vents with no moving parts that automatically allow flood waters to enter and exit enclosed areas. The vents are constructed of aluminum and available in four models. See Table 1 for model designations and sizes. See Figure 1 for illustrations of the flood vents.

## 3.2 Engineered Opening:

The Flood Solutions static flood vents comply with the design principle noted in Section 2.6.2.2 of ASCE/SEI 24 for a rate of rise and fall of 5 feet per hour (0.423 mm/s). In order to comply with the engineered opening requirement of ASCE/SEI 24, the static flood vents must be installed in accordance with Section 4.0 of this report.

## 3.3 Ventilation:

Flood Solutions' static flood vents may be used to supply natural ventilation for under-floor ventilation. See Table 1 for net free area for under-floor ventilation provided by each of Flood Solutions' static flood vents.

## 4.0 DESIGN AND INSTALLATION

The Flood Solutions static flood vents are designed to be installed into walls or doors of existing or new construction from the exterior side. Installation of the vents must be in accordance with the manufacturer's instructions, the applicable code and this report. In order to comply with the engineered opening design principle noted in Section 2.6.2.2 of ASCE/SEI 24, the vents must be installed as follows:

- With a minimum of two opening on different sides of each enclosed area.
- With a minimum of one vent for the square footage of enclosed area noted in Table 1.
- Below the base flood elevation.
- With the bottom of the vent located a maximum of 12 inches (305 mm) above grade.

## 5.0 CONDITIONS OF USE

The static flood vents described in this report comply with, or are a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The static flood vents must be installed in accordance with this report, the applicable code and the manufacturer's installation instructions. In the event of a conflict, the instructions in this report govern.
- 5.2 The static flood vents must not be used in the place of "breakaway walls" in coastal high hazard areas, but are permitted for use in conjunction with breakaway walls in other areas.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Manufacturer's descriptive literature and installation instructions.
- 6.2 Detail drawings.
- 6.3 Engineering calculations in accordance with ASCE/SEI 24.
- 6.4 Quality documentation in accordance with the ICC-ES Acceptance Criteria for Quality Documentation (AC10), dated June 2014.



ICC  
EVALUATION  
SERVICE

ICC-ES 1011-101

Innovation  
RESEARCH LABS

*Most Widely Accepted and Trusted*

# ICC-ES Evaluation Report

ICC-ES | (800) 423-6587 | (562) 699-0543 | [www.icc-es.org](http://www.icc-es.org)

## ESR-3760

Reissued 03/2018

This report is subject to renewal 03/2020.

DIVISION: 08 00 00—OPENINGS

SECTION: 08 95 43—VENTS/FOUNDATION FLOOD VENTS

REPORT HOLDER:

**FLOOD SOLUTIONS, LLC**

ONE INDUSTRIAL PARK DRIVE, BUILDING 27  
PELHAM, NEW HAMPSHIRE 03076

EVALUATION SUBJECT:

**STATIC FLOOD VENTS**



Look for the trusted marks of Conformity!

*"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"*



A Subsidiary of

INTERNATIONAL  
CODE COUNCIL

*ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.*



Copyright © 2018 ICC Evaluation Service, LLC. All rights reserved.

# BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008  
Expiration Date: November 30, 2022

## ELEVATION CERTIFICATE

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 2056 CASITA DRIVE			Policy Number:
City SARASOTA	State Florida	ZIP Code 34234	Company NAIC Number

If submitting more photographs than will fit on the preceding page, affix the additional photographs below. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8.



Photo Three

Photo Three Caption REAR

Clear Photo Three



Photo Four

Photo Four Caption RIGHT SIDE

Clear Photo Four

# BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2022

## ELEVATION CERTIFICATE

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 2056 CASITA DRIVE			Policy Number:
City SARASOTA	State Florida	ZIP Code 34234	Company NAIC Number

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for Item A6. Identify all photographs with date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.



Photo One

Photo One Caption FRONT VIEW

Clear Photo One



Photo Two

Photo Two Caption LEFT SIDE

Clear Photo Two

# ELEVATION CERTIFICATE

OMB No. 1660-0008  
Expiration Date: November 30, 2022

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 2056 CASITA DRIVE			Policy Number:
City SARASOTA	State Florida	ZIP Code 34234	Company NAIC Number

**SECTION G – COMMUNITY INFORMATION (OPTIONAL)**

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8–G10. In Puerto Rico only, enter meters.

- G1.  The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2.  A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.
- G3.  The following information (Items G4–G10) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate of Compliance/Occupancy Issued
-------------------	------------------------	---

G7. This permit has been issued for:       New Construction     Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: \_\_\_\_\_  feet     meters    Datum \_\_\_\_\_

G9. BFE or (in Zone AO) depth of flooding at the building site: \_\_\_\_\_  feet     meters    Datum \_\_\_\_\_

G10. Community's design flood elevation: \_\_\_\_\_  feet     meters    Datum \_\_\_\_\_

Local Official's Name	Title
-----------------------	-------

Community Name	Telephone
----------------	-----------

Signature	Date
-----------	------

Comments (including type of equipment and location, per C2(e), if applicable)

Check here if attachments.

**ELEVATION CERTIFICATE**

OMB No. 1660-0008  
Expiration Date: November 30, 2022

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 2056 CASITA DRIVE			Policy Number:
City SARASOTA	State Florida	ZIP Code 34234	Company NAIC Number

**SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED)  
FOR ZONE AO AND ZONE A (WITHOUT BFE)**

For Zones AO and A (without BFE), complete Items E1–E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1–E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

- E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_  feet  meters  above or  below the HAG.
  - b) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_  feet  meters  above or  below the LAG.
- E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is \_\_\_\_\_  feet  meters  above or  below the HAG.
- E3. Attached garage (top of slab) is \_\_\_\_\_  feet  meters  above or  below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is \_\_\_\_\_  feet  meters  above or  below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance?  Yes  No  Unknown. The local official must certify this information in Section G.

**SECTION F – PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION**

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner or Owner's Authorized Representative's Name \_\_\_\_\_

Address	City	State	ZIP Code
Signature	Date	Telephone	

Comments

Check here if attachments.





**ELEVATION CERTIFICATE**

OMB No. 1660-0008  
Expiration Date: November 30, 2022

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 2056 CASITA DRIVE			Policy Number:
City SARASOTA	State Florida	ZIP Code 34234	Company NAIC Number

**SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)**

C1. Building elevations are based on:  Construction Drawings\*  Building Under Construction\*  Finished Construction  
\*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Complete Items C2.a–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: NGS H701 EL=32.21 Vertical Datum: NAVD 88

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929  NAVD 1988  Other/Source: \_\_\_\_\_

Datum used for building elevations must be the same as that used for the BFE.


Check the measurement used.

- a) Top of bottom floor (including basement, crawlspace, or enclosure floor) 33.4  feet  meters
- b) Top of the next higher floor 37.0  feet  meters
- c) Bottom of the lowest horizontal structural member (V Zones only) N/A  feet  meters
- d) Attached garage (top of slab) N/A  feet  meters
- e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) 35.7  feet  meters
- f) Lowest adjacent (finished) grade next to building (LAG) 32.7  feet  meters
- g) Highest adjacent (finished) grade next to building (HAG) 33.4  feet  meters
- h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support 32.7  feet  meters

**SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION**

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Were latitude and longitude in Section A provided by a licensed land surveyor?  Yes  No  Check here if attachments.

Certifier's Name RUSSELL S. STRAYER		License Number 6890	
Title PROJECT MANAGER			
Company Name DEWBERRY ENGINEERS INC.			
Address 2201 CANTU COURT, SUITE 107			
City SARASOTA	State Florida	ZIP Code 34232	
Signature 	Date 07-12-2022	Telephone (941) 702-9671	Ext.



Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including type of equipment and location, per C2(e), if applicable)  
JOB #50154925 THE INFORMATION SHOWN HEREON IS FOR OBTAINING FLOOD INSURANCE ONLY.  
BOTTOM BEAM ELEVATION = 35.1' NAVD  
THE LOWEST MACHINERY USED WAS THE AIR CONDITIONER UNIT.  
FLOOD SOLUTION VENT #FS1608 ENGINEERED @ 97SI.  
SHED IS 95.58 SQ FT FINISHED FLOOR ELEVATION=33.8'  
2 SHED VENTS=194SI PROVIDED

# ELEVATION CERTIFICATE

Important: Follow the instructions on pages 1-9.

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION				FOR INSURANCE COMPANY USE	
A1. Building Owner's Name WINDS OF ST. ARMANDS				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 2056 CASITA DRIVE				Company NAIC Number:	
City SARASOTA		State Florida		ZIP Code 34234	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) SITE 321, WINDS OF ST. ARMANDS, SARASOTA, FLORIDA					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>RESIDENTIAL</u>					
A5. Latitude/Longitude: Lat. <u>27°21'41.81"</u> Long. <u>82°30'30.89"</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> NAD 1983					
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.					
A7. Building Diagram Number <u>8</u>					
A8. For a building with a crawlspace or enclosure(s):					
a) Square footage of crawlspace or enclosure(s) <u>1519.17</u> sq ft					
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>N/A</u>					
c) Total net area of flood openings in A8.b <u>N/A</u> sq in					
d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
A9. For a building with an attached garage:					
a) Square footage of attached garage <u>N/A</u> sq ft					
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade <u>N/A</u>					
c) Total net area of flood openings in A9.b <u>N/A</u> sq in					
d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number SARASOTA COUNTY 125144			B2. County Name SARASOTA		B3. State Florida
B4. Map/Panel Number 12115C0132	B5. Suffix F	B6. FIRM Index Date 11-04-2016	B7. FIRM Panel Effective/ Revised Date 11-04-2016	B8. Flood Zone(s) AE	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 30.5
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: <input type="checkbox"/> FIS Profile <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other/Source: _____					
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA					