334 Douglass Street,
Brooklyn,
NY 11217.

Authorised by:
Passivhaus Institut
Dr. Wolfgang Feist
Rheinstr. 44/46
D-64283 Darmstadt

Certificate

Passive House Academy hereby certifies the following building as a

Quality Approved Passive House

Guilford Sound Artists' Residence

Architect: **Ryall Porter Sheridan Architects, Ted Sheridan AIA, ASA, LEED AP, Bill Ryall AIA LEED AP, PHIUS, Ted Porter AIA, Sarah Jazmine Fugate, Niko Rychen, Lee McMahon LEED, Jörg Thöne, 45 West 21 Street, New Your, NY 10010**

Contractor: **Dave Ross Builder, 228 Stage Road, Guilford, VT 05301**

Consultant: **475 High Performance Building Supply, Floris Keverling Buisman, 334 Douglass Street, Brooklyn, NY 11217**

This building was designed to meet Passive House criteria as defined by the Passive House Institute. With appropriate on-site implementation, this building will have the following characteristics:

- Excellent thermal insulation and optimised connection details with respect to building physics. High thermal comfort during the summer has been considered and the heating demand or heating load will be limited to

  - ***15 kWh per m² of living area and year or 10 W/m², respectively***

- A highly airtight building envelope, which eliminates draughts and reduces the heating energy demand: The air change rate through the envelope at a 50 Pascal pressure difference, as verified in accordance with ISO 9972, is less than

  0.6 air changes per hour with respect to the building's volume

- A controlled ventilation system with high quality filters, highly efficient heat recovery and low electricity consumption, ensuring excellent indoor air quality with low energy consumption

- A total primary energy demand for heating, domestic hot water, ventilation and all other electric appliances during normal use of less than

  120 kWh per m² of living area and year

This certificate is to be used only in combination with the associated certification documents, which describe the exact characteristics of the building.

Passive Houses offer high comfort throughout the year and can be heated with little effort, for example, by heating the supply air. The building envelope of a Passive House is evenly warm on the inside and the internal surface temperatures hardly differ from indoor air temperatures. Due to the highly airtight envelope, draughts are eliminated during normal use. The ventilation system constantly provides fresh air of excellent quality. Heating costs in a Passive House are very low. Thanks to their low energy consumption, Passive Houses offer security against energy scarcity and future rises in energy prices. Moreover, the climate impact of Passive Houses is low as they reduce energy use, thereby resulting in the emission of comparatively low levels of carbon dioxide (CO_2) and other pollutants.

issued:
Broomhall Business Park Wicklow, February 5th, 2016

Tomás O'Leary
Director
Passive House Academy

Certificate-ID: 13069_MosArt_PH_20160205_TOL

Certification Documentation

Specific building demands with reference to the treated floor area

					Requirements	Fulfilled?*
	Treated floor area	4915	ft²			
Space heating	Heating demand	4.43	kBTU/(ft²yr)	93% of	4.75 kBTU/(ft²yr)	yes
	Heating load	2.88	BTU/(hr.ft²)	91% of	3.17 BTU/(hr.ft²)	yes
Space cooling	Overall specif. space cooling demand	2.38	kBTU/(ft²yr)	47% of	5.07 kBTU/(ft²yr)	yes
	Cooling load	2.32	BTU/(hr.ft²)		-	-
	Frequency of overheating (> 77 °F)		%		-	-
Primary energy	Heating, cooling, auxiliary electricity, dehumidification, DHW, lighting, electrical appliances	34.4	kBTU/(ft²yr)	90% of	38.0 kBTU/(ft²yr)	yes
	DHW, space heating and auxiliary electricity	19.0	kBTU/(ft²yr)		-	-
	Specific primary energy reduction through solar electricity		kBTU/(ft²yr)		-	-
Airtightness	Pressurization test result n_{50}	0.5	1/h		0.6 1/h	yes

* empty field: data missing; '-': no requirement

Passive House?	yes

This building has been awarded the

Quality Approved Passive House

certificate by MosArt Ltd.

This certification is based solely on the design data and specifications provided to MosArt Ltd by the client for the purpose of certification. MosArt Ltd has checked and approved the building's energy balances according to these data.

This certification does not cover quality assurance of the construction work or design implementation. MosArt Ltd hereby takes no responsibility for any faults in the above.

Passive House verification

Building:	Guilford Sound Artists' Residence
Street Address:	Ashworth Road
City, State, Zip:	Guilford, VT 05301
Country:	USA
Building type:	Residence
Climate:	Guilford VT
Altitude of building site (feet above sea level):	699
Home owner / Client:	
Street Address:	
City, State, Zip:	
Architecture:	Ryall Porter Sheridan Architects
Street Address:	135 Fifth Avenue
City, State, Zip:	10010 NY
Mechanical system:	
Street Address:	
City, State, Zip:	

Year of construction:	2015		Interior temperature winter:	68.0	°F	Enclosed volume V_e ft³:	89320
No. of dwelling units:	1		Interior temperature summer:	77.0	°F	Mechanical cooling:	x
No. of occupants:	13.0		Internal heat sources winter:	0.67	BTU/h.ft²		
Spec. capacity:	23	BTU/F per ft² TFA	Ditto summer:	1.73	BTU/h.ft²		

Specific building demands with reference to the treated floor area

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Airtightness	Pressurization test result n_{50}	0.5	1/h		0.6 1/h	yes

* empty field: data missing; '-': no requirement

Passive House?	yes

We confirm that the values given herein have been determined following the PHPP methodology and based on the characteristic values of the building. The PHPP calculations are attached to this application.

Name:	DesignPH::User	PHPP v8.5, IP v2.0	
Surname:		Issued on:	
Company:		Signature:	