



THE WILSON GROUP
- ARCHITECTS -

PO Box 5510 Charlotte, NC 28299
704-331-9747 - www.twgarchitects.com

PROJECT MANAGER / CIVIL ENGINEER
TALBERT & BRIGHT

4810 SHELLEY DRIVE
WILMINGTON, NC 28405
(910) 763-5350
FIRM NO.: C-0713

STRUCTURAL ENGINEER
STEWART

101 N. TRYON ST., SUITE 1400
CHARLOTTE, NC 28202
(704) 254-7925
FIRM NO.: C-1051

FIRE PROTECTION, PLUMBING, MECHANICAL,
& ELECTRICAL ENGINEER
SABER ENGINEERING

2923 S. TRYON ST. #200
CHARLOTTE, NC 28203
(704) 373-0068

WATER & SEWER ENGINEER
MCGILL ASSOCIATES

712 S. VILLAGE ROAD SW, SUITE 103
SHALLOTTE, NC 28470
(910) 768-5072

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REVISIONS

DATE 8/2/2019
PROJECT NUMBER 9217-000

SHEET TITLE
HANGAR
COMCHECK

SHEET NUMBER
G-002

COMcheck Software Version 4.1.1.0 Envelope Compliance Certificate

Project Information

Energy Code: 90.1 (2013) Standard
Project Title: New Corporate Hangar
Location: Southport, North Carolina
Climate Zone: 3a
Project Type: New Construction
Performance Sim. Spec: EnergyPlus 6.1.0.909 (EPV: USA_NC_Wilmington Int.AP.722013_TMY2.epw)

Building Area Floor Area
Warehouse 1: 11000000 sqft

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: Metal Building, Standing Seam, Single Insulation Layer with Thermal Break (S), [Sag, Use 1 - Warehouse]	9960	0.0	25.0	0.042	0.041
Floor 1: Strip-On-Groove Uninsulated [Sag, Use 1 - Warehouse] (S)	400	---	---	0.730	0.730
SOUTH/EAST Exterior Wall 4: Other Metal Building Wall [Sag, Use 1 - Warehouse] (S)	2050	---	---	0.077	0.094
Door 2: Insulated Metal, Sliding, [Sag, Use 1 - Warehouse] (S)	40	---	---	0.600	0.700
SOUTH/EAST Exterior Wall 1: Other Metal Building Wall [Sag, Use 1 - Warehouse] (S)	3150	---	---	0.077	0.094
SOUTH/EAST Exterior Wall 2: Other Metal Building Wall [Sag, Use 1 - Warehouse] (S)	3880	---	---	0.077	0.094
Door 1: Insulated Metal, Sliding, [Sag, Use 1 - Warehouse] (S)	42	---	---	0.600	0.700
NORTH/WEST Exterior Wall 3: Other Metal Building Wall [Sag, Use 1 - Warehouse] (S)	3150	---	---	0.077	0.094

Additional Comments/Assumptions:
 (4) Budget U-factors are used for archaic baseline calculations only and are not code requirements.
 (5) Other components require supporting documentation for proposed U-factors.
 (6) Side-On-Glass proposed and budget U-factors shown in table are U-factors.
 (9) Thermal spacer block with minimum R-5.5 must be installed above the junction, and the roof deck sealed to the joints.

COMcheck Software Version 4.1.1.0 Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building code, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 90.1 (2013) Standard requirements. In COMcheck Report 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Travis Walker Pence - Partner
Name - Title
Date: 8/2/19

Travis Walker Pence
The Wilson Group
NC Box 5510
Charlotte, NC 28299
(704) 331-9747
twg@wilsongroup.com

COMcheck Software Version 4.1.1.0 Inspection Checklist

Energy Code: 90.1 (2013) Standard

Requirements: 0.0% were addressed directly in the COMcheck software. Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section & Req ID	Plan Review	Compliance	Comments/Assumptions
4.1.1.1 (R1)	Plans and specifications provide information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	Complies Does Not Not Observable Not Applicable	
5.3.1.1 (R1)	In buildings > 4,300 sq ft, any enclosed space directly under a roof with rising heights > 15 ft, and used as an office, lobby, atrium, concourse, laundry, storage (including refrigerated warehouses), conference, fitness/recreation area, playing area, gymnasium seating area, convention exhibit/venue space, courtroom, automotive service, fire station engine room, manufacturing cold-storage and bay areas, retail, grocery storage and stock areas, distribution/berthing area, transportation baggage and loading areas, or workspaces, the following requirements apply: The daylight zone under skylights is to be full the floor area and (b) the skylight area to daylight zone is to be 3 percent with a skylight VT >= 0.40 or (c) the maximum daylight effective aperture is 1 percent. The skylights have a transmittance value >= 80 percent.	Complies Does Not Not Observable Not Applicable	

Section & Req ID	Field Verified Value	Plan Verified Value	Field Verified Value	Compliance	Comments/Assumptions
5.3.1.1 (R1)	Below-grade wall foundation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.2 (R1)	Slab edge insulation R-value			Complies	See the Envelope Assemblies table for values.
5.3.1.3 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.4 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.5 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.6 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.7 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.8 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.9 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.10 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.11 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.12 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.13 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.14 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.15 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.16 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.17 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.18 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.19 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.
5.3.1.20 (R1)	Slab edge insulation U-factor			Complies	See the Envelope Assemblies table for values.

Additional Comments/Assumptions:

Section & Req ID	Field Verified Value	Plan Verified Value	Compliance	Comments/Assumptions
5.3.2 (R1)	Factory-built and site-assembled fenestrations and doors are labeled or certified as meeting air leakage requirements.		Complies Does Not Not Observable Not Applicable	
5.3.2.1 (R1)	Vertical fenestration U-factor.		Complies Does Not Not Observable Not Applicable	See the Envelope Assemblies table for values.
5.3.2.2 (R1)	Skylight fenestration U-factor.		Complies Does Not Not Observable Not Applicable	See the Envelope Assemblies table for values.
5.3.2.3 (R1)	Vertical fenestration SHGC value.		Complies Does Not Not Observable Not Applicable	See the Envelope Assemblies table for values.
5.3.2.4 (R1)	Skylight SHGC value.		Complies Does Not Not Observable Not Applicable	See the Envelope Assemblies table for values.
5.3.2.5 (R1)	Fenestration products (U-factor, SHGC, and VT) in accordance with FENIC or energy code defaults are used.		Complies Does Not Not Observable Not Applicable	
5.3.2.6 (R1)	Fenestration and door products are labeled or a signed and dated certificate listing the U-factor, SHGC, VT, and air leakage rate has been provided by the manufacturer.		Complies Does Not Not Observable Not Applicable	
5.3.2.7 (R1)	U-factor of opaque doors associated with the building thermal envelope meet requirements.		Complies Does Not Not Observable Not Applicable	
5.3.2.8 (R1)	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped to an approved manner, except in ventilated spaces in climate zones 3-6.		Complies Does Not Not Observable Not Applicable	

Additional Comments/Assumptions:

Section & Req ID	Field Verified Value	Plan Verified Value	Compliance	Comments/Assumptions
5.3.3 (R1)	Roof R-value, for some ceiling systems, verification may need to occur during Framing Inspection.		Complies Does Not Not Observable Not Applicable	
5.3.3.1 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.2 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.3 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.4 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.5 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.6 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.7 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.8 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.9 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.10 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.11 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.12 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.13 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.14 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.15 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.16 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.17 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.18 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.19 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	
5.3.3.20 (R1)	Roof insulation installed and managed according to manufacturer's instructions.		Complies Does Not Not Observable Not Applicable	

Section & Req ID	Field Verified Value	Plan Verified Value	Compliance	Comments/Assumptions
5.3.4 (R1)	Foundation vents do not interfere with insulation.		Complies Does Not Not Observable Not Applicable	
5.3.4.1 (R1)	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Make this requirement compliant if insulation is installed accordingly.		Complies Does Not Not Observable Not Applicable	

Additional Comments/Assumptions:

Section & Req ID	Field Verified Value	Plan Verified Value	Compliance	Comments/Assumptions
5.3.5 (R1)	Weatherstrips installed on all loading dock cargo doors in Climate Zones 4-8.		Complies Does Not Not Observable Not Applicable	

Additional Comments/Assumptions: