

# EXTERIOR INSULATION FINISH SYSTEMS (EIFS) WALL CONSTRUCTION

## EXTERIOR INSULATION FINISH SYSTEMS (EIFS) WALL CONSTRUCTION DETAILS

- 2x6 wood frame wall at 24" o.c.
- Fiberglass or cellulose cavity insulation
- Glass-faced gypsum sheathing
- Liquid applied water control layer
- Exterior EPS insulation
- Drainage gap/channels/grooves necessary between water control layer and EPS
- Stucco finish

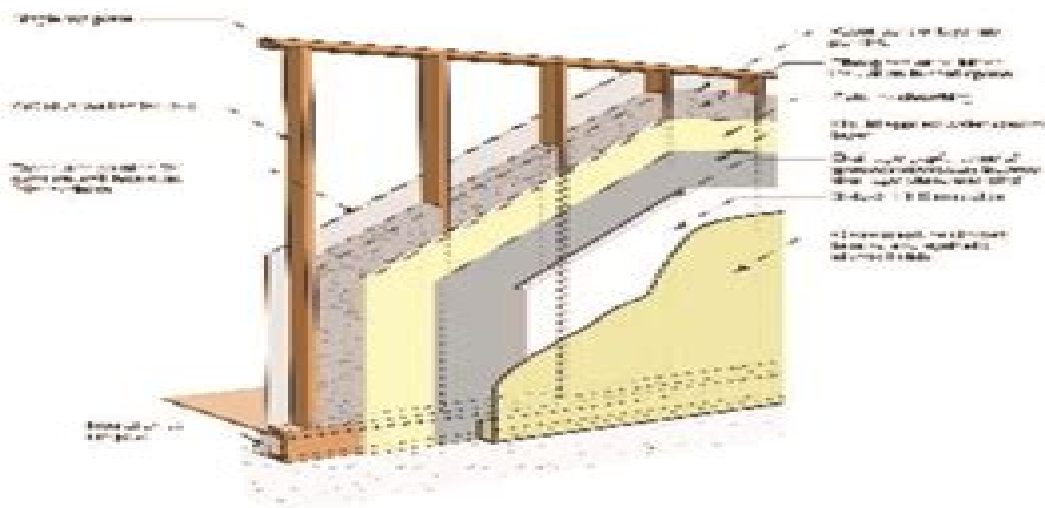
### NOTE:

- Thickness of the EPS will need to be increased in very cold climates to control temperature of condensing surface.

### REFERENCES

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3. Straube, J. (2009, 04-22). *SSD-014 Air Flow Control in Buildings*. [www.buildingscience.com](http://www.buildingscience.com).
4. LaSbrenk, J. (2008, 10-17). *SSD-006 Understanding Vapor Barriers*. [www.buildingscience.com](http://www.buildingscience.com).

Revised: November 2014



### INTRODUCTION

This overview summarizes EIFS wall construction including the advantages and disadvantages of this construction strategy. Complex two-dimensional heat flow analysis and one-dimensional hygrothermal modeling were used to determine moisture related durability risks for analysis.

For a more complete analysis of this and other wall constructions, go to [www.buildingscience.com](http://www.buildingscience.com).

### THERMAL CONTROL

**Installed Insulation R-value:** The framed portion of this wall assembly typically has an R-value of R-19 to R-20 when insulated with fiberglass batt or cellulose. Exterior insulation for EIFS is typically EPS at R-4/inch.

**Whole-wall R-value:** Using two-dimensional heat flow analysis with thermal bridging effects and average framing factors demonstrates improvements in the efficiency of the fiberglass batt or cellulose in the stud space by decreasing the thermal bridging effects of the framing and the rim joint. Adding 4" of EPS insulation for a total increase of R-16 increases the clear-wall R-value of standard construction by slightly more than R-16 because of thermal bridging of the framing and rim joint. The whole-wall R-value for this system is approximately R-30.

**Air Leakage Control:** Fiberglass batt, blown and sprayed cellulose are all air permeable materials allowing possible air paths between the interior and exterior as well as convective looping through the material. The air tightness of an EIFS system is typically at the surface of the exterior sheathing (usually glass-faced exterior gypsum) because it is the water control layer.

**Typical Insulation Products:** EPS exterior insulation, fiberglass batt, blown cellulose, sprayed cellulose.



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# Exterior Insulation And Finish Systems Current Practices And Future Considerations

**Ed Bowker Staff, Staff Bowker, Ed**



## **Exterior Insulation And Finish Systems Current Practices And Future Considerations:**

Exterior Insulation and Finish Systems Mark F. Williams, Barbara Lamp Williams, 1994-01-01      *Exterior Insulation Finish Systems (EIFS)* Peter E. Nelson, Richard E. Kroll, 1996      **Performance of Exterior Building Walls** Paul G. Johnson, 2003 Annotation All of the presentations and the papers in this publication address ways to improve the performance of exterior building walls or ways to identify understand and avoid the factors leading to failures in the future      **Water Problems in Building Exterior Walls** Jon M. Boyd, Michael J. Scheffler, 1999      *The Encyclopedia of Associations and Information Sources for Architects, Designers, and Engineers* ,      *Structural Renovation of Buildings: Methods, Details, & Design Examples* Alexander Newman, 2001 Make any renovation job go smoother Building renovation conservation and reuse represents more than half of all construction work and is projected to increase to 80% by 2004 Structural Renovation of Buildings by Alexander Newman puts a single convenient source of information about all aspects of structural renovation and strengthening of buildings at your fingertips While its focus is largely on low and midrise buildings you can apply the principles it clarifies to buildings of any size steel framed masonry or wood Whether you re repairing deteriorated concrete rehabilitating slabs on grade strengthening lateral load resisting systems renovating a building facade handling seismic upgrades or fire damage you ll find this time and trouble saving guide loaded with practical tips methods and design examples It s also heavily illustrated with autoCAD generated details supplier illustrations of materials procedural techniques and much much more      **Water Leakage Through Building Facades** Robert J. Kudder, Jeffrey L. Erdly, 1998 Derived from an American Society for Testing and Materials symposium of the same title held in March 1996 in Orlando Florida 23 papers canvass the art and science of design including using the rainscreen RAIN computer program repair and testing and quality control issues e g using modified A      *Construction Index* , 1991      **Annual Book of ASTM Standards** ASTM International, American Society for Testing and Materials, 2003      *Architecture* , 1995-05      **American Book Publishing Record** , 1995      **Small Business Sourcebook** Yolanda A. Johnson, Sonya D. Hill, Julie A. Mitchell, 1998      Small Business Sourcebook , 1996 A guide to the information services and sources provided to 100 types of small business by associations consultants educational programs franchisers government agencies reference works statisticians suppliers trade shows and venture capital firms      *Small Business Sourcebook* Thomson Gale, 2002-12 A two volume annotated guide to 26 670 listings of live and print sources of information designed to facilitate the start up development and growth of specific small businesses as well as 26 158 similar listings for general small business topics An additional 11 167 entries are provided on a state by state basis also included are 965 relevant U S federal government agencies and branch offices      Architectural Record , 1995      *Subject Guide to Books in Print* , 1996      **Forthcoming Books** Rose Arny, 1995-02      **Books In Print 2004-2005** Ed Bowker Staff, Staff Bowker, Ed, 2004      **Olin's Construction** H. Leslie Simmons, 2006-11-03 Get the industry standard updated for a new age of construction For more than fifty years Construction has been the cornerstone reference in

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## **Table of Contents Exterior Insulation And Finish Systems Current Practices And Future Considerations**

1. Understanding the eBook Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - The Rise of Digital Reading Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Advantages of eBooks Over Traditional Books
2. Identifying Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - User-Friendly Interface
4. Exploring eBook Recommendations from Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Personalized Recommendations
  - Exterior Insulation And Finish Systems Current Practices And Future Considerations User Reviews and Ratings
  - Exterior Insulation And Finish Systems Current Practices And Future Considerations and Bestseller Lists
5. Accessing Exterior Insulation And Finish Systems Current Practices And Future Considerations Free and Paid eBooks
  - Exterior Insulation And Finish Systems Current Practices And Future Considerations Public Domain eBooks
  - Exterior Insulation And Finish Systems Current Practices And Future Considerations eBook Subscription Services

- Exterior Insulation And Finish Systems Current Practices And Future Considerations Budget-Friendly Options
- 6. Navigating Exterior Insulation And Finish Systems Current Practices And Future Considerations eBook Formats
  - ePub, PDF, MOBI, and More
  - Exterior Insulation And Finish Systems Current Practices And Future Considerations Compatibility with Devices
  - Exterior Insulation And Finish Systems Current Practices And Future Considerations Enhanced eBook Features
- 7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Highlighting and Note-Taking Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Interactive Elements Exterior Insulation And Finish Systems Current Practices And Future Considerations
- 8. Staying Engaged with Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers Exterior Insulation And Finish Systems Current Practices And Future Considerations
- 9. Balancing eBooks and Physical Books Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection Exterior Insulation And Finish Systems Current Practices And Future Considerations
- 10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
- 11. Cultivating a Reading Routine Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Setting Reading Goals Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Exterior Insulation And Finish Systems Current Practices And Future Considerations
  - Fact-Checking eBook Content of Exterior Insulation And Finish Systems Current Practices And Future

#### Considerations

- Distinguishing Credible Sources

#### 13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
- Exploring Educational eBooks

#### 14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

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web certain events in the novel such as louis xi s appearance in the bastille a famous prison in paris while a riot rages outside notre dame foreshadow the french revolution when a riot broke out in paris and protestors stormed the bastille released the prisoners and executed the royal family

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web written with the hopes of saving an irreplaceable historic landmark of paris that was on death s doorstep the hunchback of notre dame instead was able to bring it new life it s pretty clear with the dedication of the people of france that

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web darth plagueis publicly known as hego damask ii and remembered as darth plagueis the wise was a male muun powerful dark lord of the sith hailing from the planet mygeeto damask was born between 147 and 120 bby to a female muun and a male muun his mother discovered his sensitivity to the

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web oct 18 2021 further explored in the non canon star wars universe star wars legends darth plagueis as explained in revenge of the sith mentored a young palpatine up until his death

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web sep 25 2023 darth plagueis born as hego damask was manipulated by darth tenebrous to become a sith lord who craved power and immortality plagueis took sheev palpatine as his apprentice together

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web darth plagueis pronounced pleig əs was a force sensitive male muun dark lord of the sith and the sith master of darth sidious plagueis lusted for immortality believing the secret laid in science to that end he worked with his sith apprentice

conducting research into bioengineering and

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web darth plagueis is a sith in the star wars universe he was the teacher of palpatine he was first mentioned in star wars episode iii revenge of the sith by palpatine to anakin skywalker and became a character in various novels biography darth plagueis the wise was a feared sith lord who wanted to bring people back to life including his own

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web a sith lord with the ability to cheat death and create life plagueis is the mentor of sheev palpatine darth sidious who in accordance to the sith s rule of two eventually betrays plagueis by murdering him in his sleep taking his place as sith master  
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