Redefining building.

know·ledge

noun | ˈnä-lij |

Having all the information you need to help you succeed in one handy place:

1. Energy efficient building,
2. Installation and use, and
3. The best technical support in the industry.
4. **Redefining building.**

ARXX™ ICF

Redefining building.

Installation Guide

The most recent version of the ARXX Installation guide is available in digital format upon request from ARXX or www.arxx.com. This guide is also available in French.

Consistent with ARXX's policy of continued research and development, we reserve the right to modify or update the information contained in this or any other materials published by ARXX Corporation. The onus remains on the user of ARXX ICFs to obtain the most recent information available.

ARXX Corporation has no control over the installation, workmanship, accessory materials or conditions of application for its products. There is no responsibility for, and no express or implied warranty as to merchantability or fitness for a particular purpose, or the performance or results of an installation using ARXX ICFs, except that the physical characteristics of ARXX ICFs shall meet or exceed the specifications published by ARXX Corporation.

Installation Guide

ARXX™

Redefining building.

ARXX™ Edge

ARXX™ Prime

ARXX™ Steel

ARXX Corporation
800 Division Street, Cobourg, Ontario Canada K9A 5V2
800.293.3210 | www.arxx.com

Preface

Installation Guide

The ARXX Installation Guide is a valuable reference tool that will help you quickly understand some of the key questions you may have about building with ARXX ICFs.

ARXX ICFs have been a proven and reliable building solution since 1978 – more than 30 years. As a leader in the design and marketing of ICFs, we have more than 105,000 projects, more than 140 million square feet installed, and over 35,000 trained installers - more than any other company making us the solid, safe choice.

What Are ARXX Insulating Concrete Forms (ICFs)?

ARXX insulating concrete forms (ICFs) are a lightweight rigid foam insulation block forming system for steel-reinforced concrete walls above and below grade. The blocks are stacked and locked together to quickly build a wall. These walls can be tall, short, have varying thicknesses, be exterior or interior and be designed with any shape or curve. Only ARXX offers three award-winning product lines to provide the best match for any project: ARXX Prime, ARXX Edge and ARXX Steel. This Installation Guide includes information and applications for all ARXX ICF products.

Why Use ARXX ICFs?

An ARXX ICF wall system is energy efficient, structurally tough, comfortable, quiet and green, and can be constructed quickly and cost-effectively.

Benefits include:

- high energy efficiency resulting in dramatic savings on heating and cooling costs
- high contributor to LEED credits
- improved indoor air quality, temperature control and higher sound suppression
- structural superiority with 25% higher strength than other concrete walls and can withstand hurricanes, earthquakes and tornados
- simpler, faster and lower cost build
- resists mold, mildew, termites and pests
- suitable for virtually any building application: institutional, commercial, industrial and residential

Energy Efficiency and the Environment

Over half of all greenhouse gas emissions, like carbon dioxide, come from the built environment – all the energy used to build, heat, cool and light offices, homes, fast food and retail stores and other buildings all around us. There is strong agreement that greenhouse gases are causing climate change. Using ARXX ICFs can substantially reduce the energy needed to heat and cool buildings. Improved energy efficiency is recognized as one of the most cost effective methods of reducing greenhouse gas emissions. When you construct a commercial or residential project with ARXX ICFs, you're helping the environment; at the same time you're saving your client money on an ongoing basis, and giving them a better, quieter, more comfortable structure.

How ARXX ICFs Achieve High Energy Efficiency

Reduced Air Infiltration
Over half the energy loss of a conventional wood frame home is due to unwanted air infiltration and heat loss through the wall assembly. Air can penetrate into a wood frame building through many channels - sheathing gaps, penetrations at balconies or cantilevered floors, and insulation gaps in the wall cavity. ARXX ICFs provide an ideal solution to these issues. In addition to combining numerous steps of the construction process into one, the monolithic concrete core forms a tight air barrier, with penetrations (e.g. windows and doors) which are easy to seal to complete the building envelope.

Air infiltration for a conventional wood frame house is typically .5 ACH (air changes per hour) which means that every hour half of the air volume of the house is exchanged for outside air that needs to be heated or cooled. Air infiltration of ARXX wall assemblies are typically sixty percent lower. This means that energy efficiency is significantly better, leading to savings in heating and cooling costs, as well as improved indoor air quality.

Thermal Mass
Studies conducted by the U.S. Department of Energy (USDOE) confirmed that concrete mass in exterior walls reduces annual energy costs in buildings. In fact, studies show that the thermal mass effect can contribute six percent of the energy needed. It keeps the walls warmer when the outdoor temperature hits the coldest extreme and keeps the house cooler when the outdoor temperature is hottest. The ARXX ICF wall moderates indoor temperature swings and reduces the amount of heating or cooling needed.

The energy effectiveness of an ARXX wall is due to three important factors: continuous R-value, reduced air infiltration and thermal mass moderation.

Reduced Waste

When building with ARXX ICFs, construction waste is typically 2 - 5%. In some cases, waste can be virtually eliminated. This is significantly less than all other wall materials and benefits the environment by decreasing the amount of waste going to landfills. ARXX products are recyclable and we encourage using local recycling programs to make each project as green as possible with zero waste.

ARXX is Here to Help

ARXX has the best technical project support in the industry. We have building science experts, extensive knowledge and practical experience with building codes, CAD files, documentation and more.

Call us anytime when you are looking at or estimating a project – whether industrial, commercial, institutional or residential. We can provide help in understanding potential energy savings, selecting the best product line to use, and the most efficient application of the product. Refer to ARXX Contact Information.

LEARN TO INSTALL ARXX ICFS

We encourage you to take the ARXX ICF installer training class to learn how to build with ICFs, including a focus on one or more specific product lines that you will be using on an upcoming project. The course includes:

- ICF benefits
- estimating what you'll need
- taking your site into consideration
- laying out ICFs
- dealing with openings
- working with concrete

By the end of the class, along with useful tools, you will be ready to build an ARXX ICF project.

Upon successful completion of the ARXX training class participants receive an official trained installer certificate and wallet card by mail in 4 - 6 weeks. Wallet cards are often requested and required by onsite inspectors.

ARXX also conducts AIA certified educational sessions.
Refer to the ARXX website – Training Programs.

USING THIS GUIDE

This Installation Guide has been prepared for the purpose of assisting you in your efforts to build the best structure possible using ARXX ICFs. Contained in this guide is information about ARXX products and the installation procedures required in each construction phase of a typical build. For your benefit, we have inserted tips, best practice suggestions and other highlights which are identified by special icons. It is important for you to consider all of the alternatives offered in order to select the best approach for your particular project.

This Installation Guide operates under the assumption that the installer has a basic knowledge of construction and it is not a substitute for that knowledge.

Please ensure you read and understand all the processes for the proper installation of ARXX ICFs set out in this guide before you commence building with ARXX ICFs. The procedures outlined in this Guide are current as of the publication date, but may be updated anytime. Accordingly, these procedures should be considered as guidelines only and any questions should be addressed to your ARXX distributor, the ARXX website or ARXX technical support.

ARXX does not purport to address all possible details or product interfacings of products and accepts no liability for building products used in conjunction with the ARXX ICFs.

ADDITIONAL INFORMATION

From time to time ARXX publishes technical bulletins and other documents relating to additional information about designing and building with ARXX ICFs. These will be posted on the ARXX website. We recommend that you read and use these bulletins and documents as additional reference material.

BUILDING CODE COMPLIANCE

ARXX ICFs have been evaluated to be in compliance with national building codes. ARXX product should always be used in compliance with all applicable building standards and codes.

If you have any questions or need additional information about building code compliance or installation applications, please don't hesitate to contact ARXX.

ARXX CONTACT INFORMATION

Contact your local ARXX Distributor for product information, pricing and ARXX contractors in your region. To locate an ARXX distributor near you contact ARXX.

ARXX has two email addresses available for a quick response to specific questions:
customerservice@arxx.com
techsupport@arxx.com

ARXX also provides a toll free number for customer and technical support **800.293.3210**

The ARXX website has additional documentation to this Installation Guide: technical bulletins, testing reports, newsletters, project profiles, etc.
www.arxx.com

INSTALLATION GUIDE ICONS

RECYCLING AND GREEN - REFER TO THIS SYMBOL FOR RECYCLING AND GREEN BUILDING INFORMATION AND TIPS.

BUILDING CODES, MATERIAL STANDARDS OR REGULATIONS - REFER TO THIS SYMBOL FOR INFORMATION AND REFERENCES.

USING AND GETTING THE MOST OUT OF ARXX - REFER TO THIS SYMBOL FOR IMPORTANT INFORMATION AND TIPS.

BEST PRACTICE - REFER TO THIS SYMBOL FOR SUGGESTED BEST PRACTICE GUIDES. THESE ARE OFFERED AS SUGGESTIONS ALTHOUGH SOME MAY BE REQUIRED BY LOCAL BUILDING CODES.

ICI - REFER TO THIS SYMBOL FOR INSTITUTIONAL, COMMERCIAL, INDUSTRIAL APPLICATIONS OF ARXX ICF PRODUCTS.

BUILDING AND WORK-SITE SAFETY - REFER TO THIS SYMBOL FOR SAFETY INFORMATION AND TIPS.

CONTENTS

Contents

Contents

Contents

Contents

LIST OF TABLES

Contents

List of Figures

Contents

Contents

Contents