



ALCHEM INC.
ALASKA OWNED

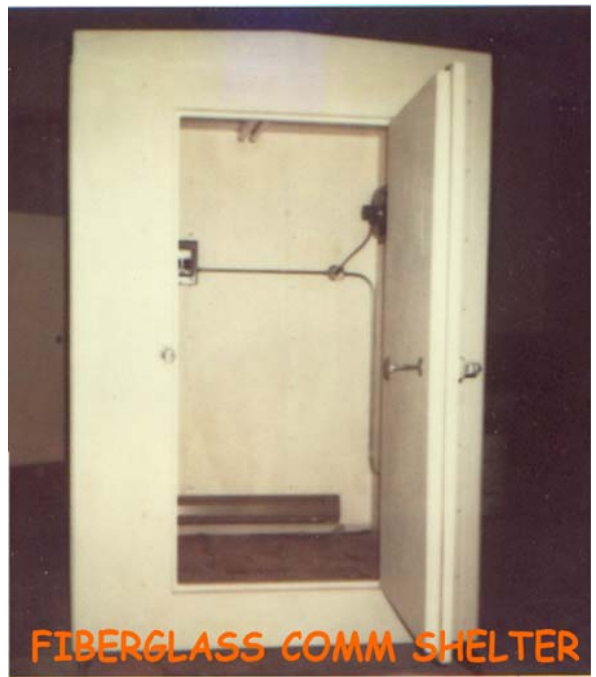
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MANUFACTURER SINCE 1970

STRESSED SKIN URETHANE CORE PANELS FOR
BUILDING RESIDENTIAL, COMMERCIAL, AND
COLD STORAGE STRUCTURES PLUS CUSTOM
FIBERGLASS FABRICATION

PHIL REYNOLDS

KENT REYNOLDS



FIBERGLASS COMM SHELTER



HOUSES-LITTLE DIOMEDE ISLAND



FIRE & RESCUE VEHICLE BUILDING-CANTWELL

BUILDING CODE EVALUATION REPORT:

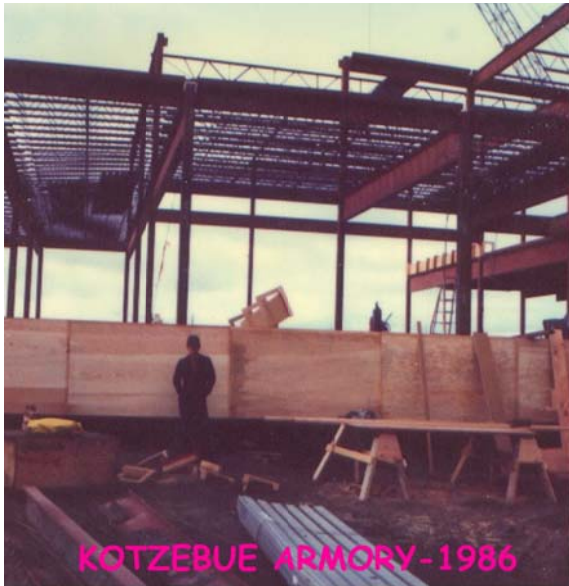


ASTAC TELECOM CENTER-NUIQSUT-2002

PREFABRICATED FOR & ERECTED BY U. S. PUBLIC HEALTH
SERVICE SINCE 1972 TO THE PRESENT-50 LOCATIONS PLUS



U. S. PUBLIC HEALTH SERVICE UTILITY BLDG.-ARCTIC VILLAGE



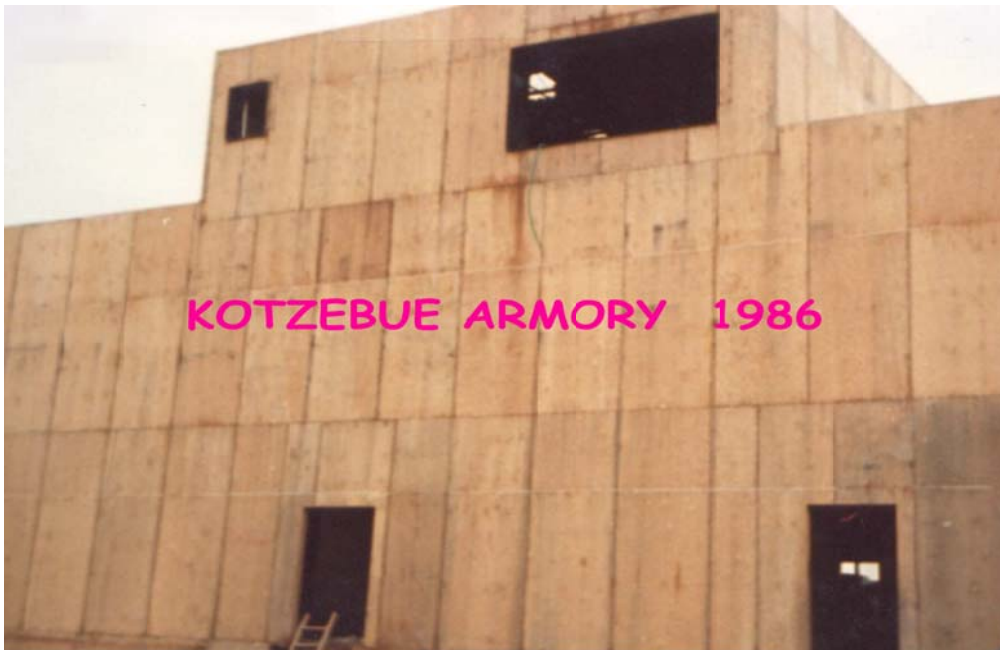
KOTZEBUE ARMORY-1986



KENAI LAKE CABIN

KOTZEBUE ARMORY

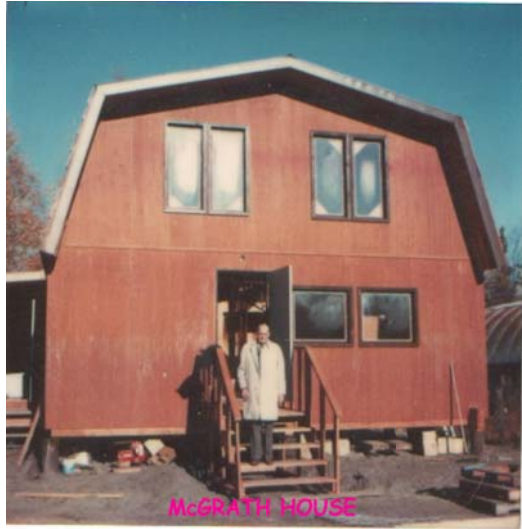
REQUIRED APPROXIMATELY 40,000 SQUARE FEET OF PREFABRICATED COMPONENTS TO PANELIZE THE WALLS (3 1/2" CORE URETHANE FOAMED-IN-PLACE) AND FLOOR SOFFIT (5 1/2" CORE URETHANE FOAMED-IN-PLACE) WITH PLYWOOD FACES



KOTZEBUE ARMORY 1986



KOTZEBUE SUBSTANCE FACILITY 1986



McGRATH HOUSE

U.S. PATENT #4,671,032 AND CANADIAN PATENT #1,279,970 APPLY TO OUR NO-THRU WOOD FRAME DESIGN WHICH IS "TYPE P" IN THE EVALUATION REPORT

ALCHEM INC. MANUFACTURES URETHANE CORE (POURED-IN-PLACE) STRUCTURAL STRESSED SKIN SANDWICH (CLOSED) PANELS AS BUILDING COMPONENTS. THESE PANEL COMPONENTS ARE CUSTOM DESIGNED AS FOUNDATION, FLOOR, WALL, AND ROOF STRUCTURAL PANELS FOR SPECIFIC BUILDINGS SUCH AS COMMERCIAL, RESIDENTIAL, COLD STORAGE, AND VARIOUS SKID MOUNTED



McKINLEY PARK-FIRE & COMMUNITY HALL

ALCHEM INC.



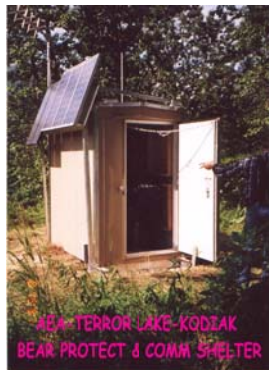
BARROW HOUSE

STRUCTURES. THE PANEL COMPONENTS WHEN ERECTED COMPRISES A PREFABRICATED STRUCTURAL SHELL AND, WHEN REQUIRED, THE PANEL SIZES ARE REDUCED TO SIZES THAT ARE AIR TRANSPORTABLE AND POSSIBLE TO MAN HANDLE AT THE CONSTRUCTION SITE. THE PANELS, GENERALLY, HAVE PLYWOOD OR OSB(ORIENTED STRAND BOARD) FACES WITH THE REQUIRED STUDS EMBEDDED TO GIVE THE REQUIRED STRUCTURAL STABILITY. OTHER PANEL FACE MATERIALS SUCH AS METAL, ETC. MAY BE USED

AS THE END USE MAY REQUIRE. SOME PANEL DESIGNS ARE POSSIBLE HAVING MINIMUM, OR NO THROUGH WOOD SO AS TO GIVE THE MAXIMUM THERMAL RESISTANCE FOR A SPECIFIC PANEL THICKNESS PER "TYPE P" IN THE EVALUATION REPORT. THE FOAM CORES ARE GENERALLY Poured TO 2 1/2, 3 1/2, 5 1/2, 7, OR 9 1/2 INCHES THICK TO CORRESPOND WITH THE THICKNESS OF 2/3, 2/4, 2/6, 2/8, 2/10 STANDARD LUMBER MATERIALS.

OUR EXPERIENCE TO DATE, SINCE 1970, INDICATES THAT PROPERLY PLACED URETHANE SANDWICHED BETWEEN FACES OF PLYWOOD AND OTHER PANEL FACES UNDERGOES NO SIGNIFICANT DETERIORATION IN THERMAL CONDUCTANCE WITH TIME OR MOISTURE DIFFUSION. THE USE OF EXTERIOR GRADE PLYWOOD, OSB AND OTHER MORE IMPERVIOUS FACES MAKES IT UNNECESSARY TO INSTALL A VAPOR BARRIER ON THE FLOOR, WALL, AND ROOF

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A RECENT TEST RESULT SHOWS AN APPROXIMATE R VALUE OF **5.5** PER INCH OF FOAM. A 3 1/2 INCH CORE WOULD HAVE AND R VALUE OF **19.25**, A 5 1/2 INCH CORE WOULD BE **30.25**, AND A 7 INCH CORE WOULD BE **38.5**.

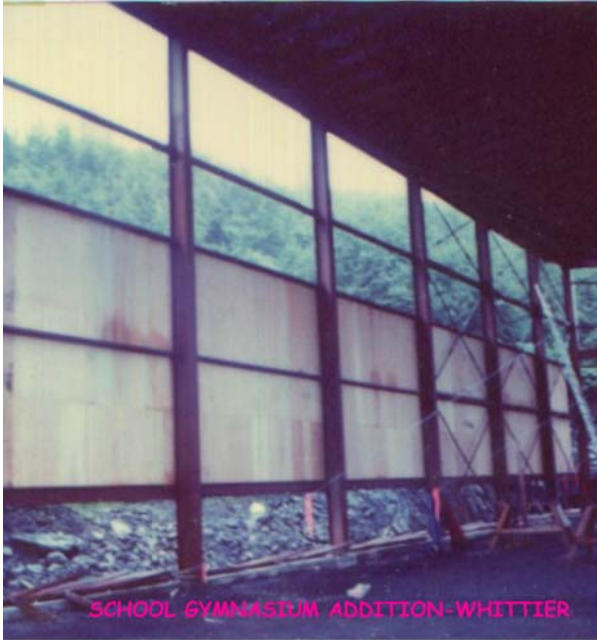
THE URETHANE FOAM BEING USED IS RATED CLASS 1, SMOKE DENSITY 300 AND FLAME SPREAD 25

SOME OF THE FEATURES OF THE STRESSED SKIN PANEL ARE AS FOLLOWS:

1. UNUSUAL STRUCTURAL STRENGTH OF THE STRESSED SKIN SANDWICH PANEL HAVING EMBEDDED MEMBERS OR PANELS HAVING NO EMBEDDED STRUCTURAL MEMBERS. THE FOAM CORE DENSITY IS APPROX. 2 1/2 LBS/FT CUBED WITH A COMPRESSIVE STRENGTH OF 15 TO 20 PSI APPROX.
2. LESS MAN HOURS OF FIELD LABOR ARE REQUIRED TO ERECT THE STRUCTURAL SHELL OF A BUILDING.
3. HIGH AND LONG TERM THERMAL EFFICIENCY MAKES IT POSSIBLE TO DESIGN FOR THE MOST EFFICIENT AND DESIRABLE THERMAL RATING, USING

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ORDINARY DIMENSIONAL LUMBER.

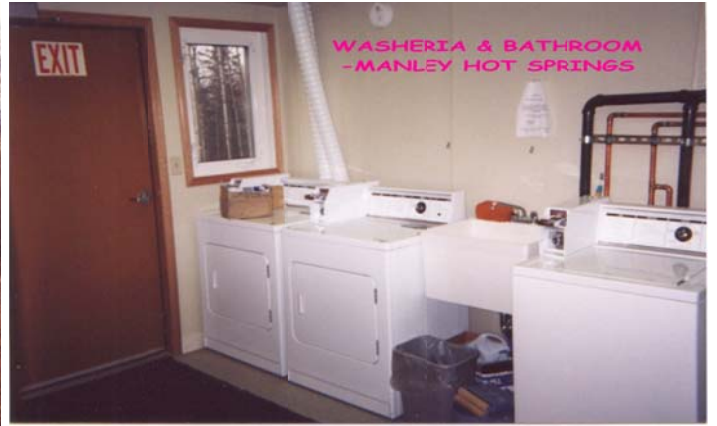
4. BUILDINGS MAY BE ERECTED USING LESS SKILLED LABOR BECAUSE THE LAYOUT AND STRUCTURE ARE BUILT INTO THE PANEL COMPONENTS. PANEL JOINTS ARE DESIGNED USING A TONGUE AND GROOVE, OR

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MANLEY HOT SPRINGS CLINIC WASHETERIA 1997



WASHERIA & BATHROOM
-MANLEY HOT SPRINGS

ALCHEM INC.



MANLEY BATHROOM



Your Text Here

MANELY HOT SPRINGS CLINIC & WASHETERIA



FIRE & RESCUE VEHICLE BUILDING-CANTWELL



SHIP-LAP, OR SPLINE METHOD OF ERECTING PANELS. THE MOST APPROPRIATE METHOD IS USED.

USUALLY THE WINDOWS AND EXTERIOR DOORS ARE SHOP INSTALLED IN THEIR RESPECTIVE PANELS OR FIELD INSTALLED.

OFTENTIMES ELECTRICAL CONDUIT WILL BE EMBEDDED JUST BEHIND THE INTERIOR FACE OF THE PANEL FOR SOME ELECTRICAL RUNS AND SWITCH LOCATIONS NECESSARY IN THE OUTSIDE WALLS. THERE IS USUALLY ENOUGH FOAM BACK OF THE ELECTRICAL BOXES TO PREVENT CONDENSATE FORMING.

5. THE PRESSURE AND VACUUM EFFECT ON THE BUILDING ENCLOSURE STRUCTURE (FLOOR, WALL, AND ROOF) CAUSED BY AIR MOVEMENT (WIND) CANNOT REMOVE WARM AIR FROM THE CLOSED CELL URETHANE CORE PANEL BECAUSE THERE ARE NO AIR SPACES. FOAM CORE PANELS MAKE IT UNNECESSARY TO INSTALL AN AIR BARRIER SUCH AS TYVEK ON THE OUTSIDE OF THE BUILDING. THIS IS NOT TRUE FOR LOOSE FILL INSULATIONS HAVING AIR SPACES THAT CAN BE INFLUENCED BY THE WIND BLOWING AGAINST A BUILDING, AND PROMOTING THERMAL CYCLING IN THE BUILDING ENCLOSURE'S CAVITIES.

WE ARE ATTACHING PHOTOGRAPHIC REPRODUCTIONS SHOWING REPRESENTATIVE BUILDINGS USING ALCHEM PANELS FOR THE FLOOR, WALL, AND ROOF. MOST OF THESE BUILDINGS USED A PANEL HAVING A 5 1/2 INCH URETHANE CORE FOR AN APPROX. R VALUE OF **30.25**

ALCHEM WOULD WELCOME THE OPPORTUNITY TO VISIT WITH THOSE PEOPLE HAVING INTEREST IN USING OUR SYSTEM.