

**FIELD SERVICE PROCEDURES**

IN ORDER TO GIVE YOU PROMPT SERVICES AND KEEP PROBLEMS TO A MINIMUM, PLEASE HANDLE ANY SHORTAGES OR BACK CHARGES IN THE FOLLOWING MANNER:

CAREFULLY CHECK YOUR PACKING LIST WHILE UNLOADING. MARK ANY ITEMS, WHICH APPEAR TO BE MISSING AND NOTIFY THE FIELD SERVICE DEPARTMENT AT THE NUMBER SHOWN IN THE TITLEBLOCK AS SOON AS POSSIBLE. CALLING SOMEONE ELSE COULD DELAY THE PROPER RESPONSE.

**SHORT MATERIALS** – IMMEDIATELY UPON DELIVERY OF MATERIAL, QUANTITIES ARE TO BE VERIFIED BY THE CUSTOMER AGAINST QUANTITIES THAT ARE BILLED ON THE SHIPPING DOCUMENT. NEITHER THE MANUFACTURER NOR THE CARRIER IS RESPONSIBLE FOR THE MATERIAL SHORTAGES AGAINST THE QUANTITIES BILLED ON SHIPPING DOCUMENT IF SUCH SHORTAGES ARE NOT NOTED ON SHIPPING DOCUMENTS WHEN THE MATERIAL IS DELIVERED, AND THEN ACKNOWLEDGED BY THE CARRIER'S AGENT. IF THE CARRIER IS THE MANUFACTURER, CLAIMS FOR SHORTAGES ARE TO BE MADE BY THE CUSTOMER TO THE COMMON CARRIER. IF THE MATERIAL QUANTITIES RECEIVED ARE CORRECT ACCORDING TO THE QUANTITIES THAT ARE BILLED ON THE SHIPPING DOCUMENTS, BUT ARE LESS THAN THE QUANTITIES ORDERED OR THE QUANTITIES THAT ARE NECESSARY TO COMPLETE THE METAL BUILDING ACCORDING TO THE ORDER DOCUMENTS, CLAIM IS TOO BE MADE OF THE MANUFACTURER.

**DAMAGED OR DEFECTIVE MATERIAL** – DAMAGED OR DEFECTIVE MATERIAL, REGARDLESS OF THE DEGREE OF DAMAGE, MUST BE NOTED ON THE SHIPPING DOCUMENTS BY THE CUSTOMER AND ACKNOWLEDGED IN WRITING BY THE CARRIER'S AGENT. THE MANUFACTURER IS NOT RESPONSIBLE FOR MATERIAL DAMAGED IN UNLOADING OF PACKAGED OR NESTED MATERIALS, INCLUDING, BUT NOT LIMITED TO: FASTENERS, SHEET METAL, "C" & "Z" SECTIONS & COVERING PANELS THAT BECOME WET AND/OR DAMAGED BY WATER WHILE IN THE POSSESSION OF OTHERS. PACKAGED OR NESTED MATERIAL THAT BECOMES WET IN TRANSIT MUST BE UNPACKED, UNSTACKED AND DRIED BY THE CUSTOMER.

IF THE CARRIER IS THE MANUFACTURER, THE CUSTOMER MUST MAKE CLAIM FOR DAMAGE DIRECTLY TO THE MANUFACTURER. IF THE CARRIER IS A COMMON CARRIER, THE CUSTOMER MUST MAKE THE CLAIM FOR DAMAGE TO THE COMMON CARRIER. THE MANUFACTURER IS NOT LIABLE FOR ANY CLAIM WHATSOEVER INCLUDING, BUT NOT LIMITED TO LABOR CHARGES OF CONSEQUENTIAL DAMAGES RESULTING FROM THE CUSTOMER'S USE OF DAMAGED OR DEFECTIVE MATERIALS THAT CAN BE DETECTED BY VISUAL INSPECTION.

**OIL DRAINING IS NOT CAUSE FOR REJECTION – SEE INSTALLATION MANUAL**  
**EXCESSIVE MATERIAL** – THE MANUFACTURER RESERVES THE RIGHT TO RECOVER ANY MATERIAL DELIVERED IN EXCESS OR THOSE REQUIRED BY THE ORDER DOCUMENTS.

**INITIAL CLAIM** – IN THE EVENT OF ERROR, THE CUSTOMER MUST PROMPTLY MAKE A WRITTEN OR VERBAL "INITIAL CLAIM" TO THE MANUFACTURER FOR THE CORRECTION OF DESIGN, DRAFTING, BILL OF MATERIALS OF FABRICATION ERROR. THE "INITIAL CLAIM" INCLUDES:

- DESCRIPTION OF THE NATURE AND EXTENT OF THE ERRORS, INCLUDING QUANTITIES.
- DESCRIPTION OF THE NATURE AND EXTENT OF PROPOSED CORRECTIVE WORK INCLUDING ESTIMATED MAN-HOURS.
- MATERIAL TO BE PURCHASED FROM OTHER THAN THE MANUFACTURER, INCLUDING ESTIMATED QUANTITIES AND COST.
- MAXIMUM TOTAL COST OF PROPOSED CORRECTIVE WORK AND MATERIAL TO BE PURCHASED FROM OTHER THAN THE MANUFACTURER.

**AUTHORIZATION FOR CORRECTIVE WORK**

NORMAL ERECTION OPERATIONS INCLUDE THE CORRECTION OF MINOR MISFITS BY MODERATE AMOUNTS OF REAMING, CHIPPING, WELDING OR CUTTING AND THE DRAWING OF ELEMENTS INTO LINE THROUGH THE USE OF DRIFT PINS. ERRORS WHICH CANNOT BE CORRECTED BY THE FOREGOING MEANS OR WHICH REQUIRE MAJOR CHANGES IN THE MEMBER CONFIGURATION SHOULD BE REPORTED IMMEDIATELY TO THE OWNER AND FABRICATOR BY THE ERECTOR. TO ENABLE WHOEVER IS RESPONSIBLE EITHER TO CORRECT THE ERROR OR TO APPROVE THE MOST EFFICIENT AND ECONOMICAL METHOD OF CORRECTION TO BE USED BY OTHERS. (AISC 303-10, SECTION 7.14) (MAR 05 SECTION 7.14)

IF THE ERROR IS THE FAULT OF THE MANUFACTURER, AN "AUTHORIZATION FOR CORRECTIVE WORK" MUST BE ISSUED IN WRITING BY THE MANUFACTURER TO AUTHORIZE THE CORRECTIVE WORK AT A COST NOT TO EXCEED THE MAXIMUM TOTAL COST SET FORTH.

ALTERNATIVE CORRECTIVE WORK OTHER THAN THAT PROPOSED IN THE "INITIAL CLAIM" MAY BE DIRECTED BY THE MANUFACTURER IN THE "AUTHORIZATION OF CORRECTIVE WORK." ONLY THE FIELD SERVICE DEPARTMENT MAY AUTHORIZE CORRECTIVE WORK.

**FINAL CLAIM** – THE "FINAL CLAIM" IN WRITING MUST BE FORWARDED BY THE CUSTOMER TO THE MANUFACTURER WITHIN TEN (10) DAYS OF COMPLETION OF THE CORRECTIVE WORK AUTHORIZED BY THE MANUFACTURER.

**THE "FINAL CLAIM" MUST INCLUDE:**

- ACTUAL NUMBER OF MAN-HOURS BY DATE OF DIRECT LABOR USE ON CORRECTIVE WORK AND ACTUAL HOURLY RATES OF PAY
- TAXES AND INSURANCE ON TOTAL ACTUAL DIRECT LABOR.
- OTHER DIRECT COSTS ON ACTUAL DIRECT LABOR.
- COST OF MATERIAL (NOT MINOR SUPPLIES) AUTHORIZED BY THE MANUFACTURER TO BE PURCHASED FROM OTHER THAN THE MANUFACTURER, INCLUDING COPIES OF PAID INVOICES.
- TOTAL ACTUAL DIRECT COST OF CORRECTIVE WORK (SUM OF 1, 2, 3 & 4). THE "FINAL CLAIM" MUST BE SIGNED AND CERTIFIED TRUE AND CORRECT BY THE CUSTOMER. "FINAL CLAIMS" ARE CREDITED TO THE CUSTOMER BY THE MANUFACTURER IN AN AMOUNT NOT TO EXCEED THE LESSER OF THE MAXIMUM TOTAL COST SET FORTH IN WRITING IN THE "AUTHORIZATION FOR CORRECTIVE WORK" OR TOTAL ACTUAL DIRECT COST OF CORRECTIVE WORK.

\*\* IMPORTANT NOTE \*\* – COST OF EQUIPMENT (RENTAL OR DEPRECIATION), SMALL TOOLS, SUPERVISION, OVERHEAD AND PROFIT ARE NOT SUBJECTED TO CLAIMS.

**SHIPMENT ARRIVAL TIME** – EVERY EFFORT WILL BE MADE TO SEE THAT THE CARRIER ARRIVES AT THE JOBSITE ON THE REQUESTED DAY AND AT THE REQUESTED HOUR. MANUFACTURER MAKES NO WARRANTY AND ACCEPTS NO RESPONSIBILITY FOR COSTS ASSOCIATED WITH A SHIPMENT NOT ARRIVING AT A REQUESTED TIME UNLESS A SEPARATE AGREEMENT HAS BEEN MADE IN WRITING FOR A GUARANTEED ARRIVAL TIME.

**UNLOADING, HANDLING, AND STORING MATERIALS**

**STRUCTURAL** – A GREAT AMOUNT OF TIME AND TROUBLE CAN BE SAVED IF THE BUILDING PARTS ARE UNLOADED AT THE BUILDING SITE ACCORDING TO A PRE-ARRANGED PLAN. PROPER LOCATION AND HANDLING OF COMPONENTS WILL ELIMINATE UNNECESSARY HANDLING.

**NOTE: PIECE MARKS ARE STENCILED ON PRIMARY STRUCTURAL MEMBERS AT LOWER END, 1'-0" FROM END. INSPECT ALL SHIPMENTS PRIOR TO RELEASING THE TIE-DOWNS FOR LOADS THAT MAY HAVE SHIFTED DURING TRANSIT!**

**REMEMBER, SAFETY FIRST!**  
 BLOCKING UNDER THE COLUMNS AND RAFTERS PROTECTS THE SPLICE PLATES AND THE SLAB FROM DAMAGE DURING THE UNLOADING PROCESS. IT ALSO FACILITATES THE PLACING OF SLINGS OR CABLES AROUND THE MEMBERS FOR LATER LIFTING AND ALLOWS MEMBERS TO BE BOLTED TOGETHER INTO SUB-ASSEMBLIES WHILE ON THE GROUND. EXTRA CARE SHOULD ALWAYS BE EXERCISED IN THE UNLOADING OPERATION TO PREVENT INJURIES FROM HANDLING THE STEEL AND TO PREVENT DAMAGE TO MATERIALS AND THE CONCRETE SLAB.

IF WATER IS ALLOWED TO REMAIN FOR EXTENDED PERIODS IN BUNDLES OF PRIMED PARTS SUCH AS GIRTS, PURLINS, ETC., THE PIGMENT WILL FADE AND THE PAINT WILL GRADUALLY SOFTEN REDUCING ITS BOND TO THE STEEL. THEREFORE, UPON RECEIPT OF A JOB, ALL BUNDLES OF PRIMED PARTS SHOULD BE STORED AT AN ANGLE TO ALLOW ANY TRAPPED WATER TO DRAIN AWAY AND PERMIT AIR CIRCULATION FOR DRYING. PUDDLES OF WATER SHOULD NOT BE ALLOWED TO COLLECT AND REMAIN ON COLUMNS OR RAFTERS FOR THE SAME REASON.

THE COAT OF SHOP PRIMER IS INTENDED TO PROTECT THE STEEL FRAMING FOR ONLY A SHORT PERIOD OF EXPOSURE TO ORDINARY ATMOSPHERIC CONDITIONS. THE COAT OF SHOP PRIMER DOES NOT PROVIDE THE UNIFORMITY OF APPEARANCE, OR THE DURABILITY AND CORROSION RESISTANCE OF A FIELD APPLIED FINISH COAT OF PAINT OVER A SHOP PRIMER.

TOUCH-UP OF THESE MINOR ABRASIONS IS THE RESPONSIBILITY OF THE END CUSTOMER.

ALL PRIMER SHOULD BE TOUCHED UP AS REQUIRED BEFORE ERECTION! – SEE R1-06 TITLED "SHOP PRIMED STEEL"

**TEMPORARY SUPPORTS**

TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BRACES, FALSE WORK, CRIBBING OR OTHER ELEMENTS REQUIRED FOR THE ERECTION OPERATION WILL BE DETERMINED AND FURNISHED AND INSTALLED BY THE ERECTOR. THESE TEMPORARY SUPPORTS WILL SECURE THE STEEL FRAMING, OR ANY PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED, RESULTING FROM WIND, SEISMIC FORCES AND ERECTION OPERATIONS, BUT NOT THE LOADS RESULTING FROM THE PERFORMANCE OF WORK BY OR THE ACTS OF OTHERS, NOR SUCH UNPREDICTABLE LOADS AS THOSE DUE TO TORNADO, EXPLOSION OR COLLISION. (SECT. 7.9.1 AISC CODE OF STANDARD PRACTICE, 9TH ED.)

**ROOF AND WALL PANELS**

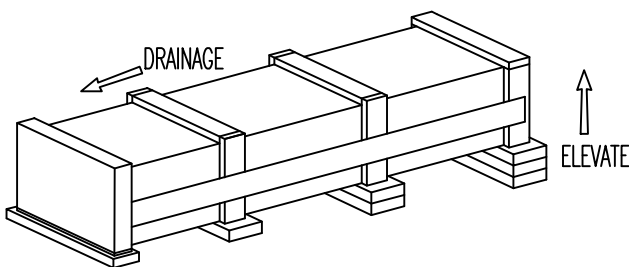
MANUFACTURER'S WALL AND ROOF PANELS INCLUDING COLOR COATED, GALVALUME & GALVANIZED, PROVIDE EXCELLENT SERVICE UNDER WIDELY VARIED CONDITIONS. ALL UNLOADING & ERECTION PERSONNEL SHOULD FULLY UNDERSTAND THAT *THESE PANELS ARE QUALITY MERCHANDISE, WHICH MERITS CAUTIOUS CARE IN HANDLING.*

**UNDER NO CIRCUMSTANCES SHOULD PANELS BE HANDLED ROUGHLY.** PACKAGES OF SHEETS SHOULD BE LIFTED OFF THE TRUCK WITH EXTREME CARE TAKEN TO INSURE THAT NO DAMAGE OCCURS TO ENDS OF THE SHEETS OR TO SIDE RISBS. THE PACKAGES SHOULD BE STORED OFF THE GROUND SUFFICIENTLY HIGH TO ALLOW AIR CIRCULATION UNDERNEATH THE PACKAGES. THIS AVOIDS GROUND MOISTURE & DETERS PEOPLE FROM WALKING ON THE PACKAGES. ONE END OF THE PACKAGE SHOULD ALWAYS BE ELEVATED TO ENCOURAGE DRAINAGE IN CASE OF RAIN. THE MFR EXERCISES EXTREME CAUTION DURING FABRICATING AND SHIPPING OPERATIONS TO INSURE THAT ALL PANEL STOCK IS KEPT DRY. HOWEVER, DUE TO CLIMATIC CONDITIONS, WATER FORMED BY CONDENSATION OF HUMID AIR CAN BECOME TRAPPED BETWEEN STACKED SHEETS. WATER CAN ALSO BE TRAPPED BETWEEN THE STACKED SHEETS WHEN EXPOSED TO RAIN. THIS MAY CAUSE DISCOLORATION CAUSED BY TRAPPED MOISTURE.

THE STAIN IS USUALLY SUPERFICIAL & HAS LITTLE EFFECT ON THE APPEARANCE OR SERVICE LIFE OF THE PANELS AS LONG AS IT IS NOT PERMITTED TO REMAIN ON THE PANELS. HOWEVER, MOISTURE IN CONTACT WITH THE SURFACE OF THE PANELS OVER AN EXTENDED PERIOD CAN SEVERELY ATTACK THE FINISH & REDUCE THE EFFECTIVE SERVICE LIFE. SEE R1-07 "DAMAGE FROM CONDENSATION OR TRAPPED WATER."

**CAUTION:** CARE SHOULD ALWAYS BE TAKEN WHEN WALKING ON PANELS. USE SAFETY LINES AND NETS WHEN NECESSARY! PANELS ARE SLIPPERY. WIPE DRY ANY MOISTURE OR SURFACE MATERIAL THAT HAS PUDDLED FROM BUNDLES STORED ON A SLOPE. DEW, FROST, OR OTHER FORMS OF MOISTURE GREATLY INCREASE THE SLIPPERNESS OF THE PANELS. ALWAYS ASSUME PANEL SURFACE IS SLIPPERY & ACT ACCORDINGLY. NEVER WALK OR STEP ON SKYLIGHTS OR TRANSLUCENT PANELS!

USE WOOD BLOCKING TO ELEVATE & SLOPE THE PANELS IN A MANNER THAT WILL ALLOW MOISTURE TO DRAIN. WOOD BLOCKING PLACED BETWEEN BUNDLES WILL PROVIDE ADDITIONAL AIR CIRCULATION. WHEN HANDLING OR UNCRATING THE PANELS, LIFT RATHER THAN SLIDE THEM APART. BURRED EDGES MAY SCRATCH THE COATED SURFACES WHEN SHEETS ARE SLID OVER ONE ANOTHER. NEVER ALLOW PANELS TO BE WALKED ON WHILE ON THE GROUND.



**R1-01**

**TYPES OF FINISHES**

**SHOP PRIMED STEEL**

ALL STRUCTURAL MEMBERS OF THE METAL BUILDING SYSTEM NOT FABRICATED AT CORROSION RESISTANT MATERIAL OR PROTECTED BY A CORROSION RESISTANT COATING ARE PAINTED WITH ONE COAT OF SHOP PRIMER MEETING THE PERFORMANCE REQUIREMENTS OF SSPC PAINT SPECIFICATION NO. 15. THE COAT OF SHOP PRIMER IS INTENDED TO PROTECT THE STEEL FRAMING FOR ONLY A SHORT PERIOD OF EXPOSURE TO ORDINARY ATMOSPHERIC CONDITIONS. SHOP PRIMED STEEL WHICH IS STORED IN THE FIELD PENDING ERECTION SHOULD BE KEPT FREE OF THE GROUND AND SO POSITIONED AS TO MINIMIZE WATER-HOLDING POCKETS, DUST, MUD AND OTHER CONTAMINATION OF THE PRIMER FILM. REPAIRS OF DAMAGE TO PRIMED SURFACES AND/OR REMOVAL OF FOREIGN MATERIAL DUE TO IMPROPER FIELD STORAGE OR SITE CONDITIONS ARE NOT THE RESPONSIBILITY OF THE MANUFACTURER. THE MANUFACTURER IS NOT RESPONSIBLE FOR DETERIORATION OF THE SHOP COAT OF PRIMER OR CORROSION THAT MAY RESULT FROM EXPOSURE TO ATMOSPHERIC AND ENVIRONMENTAL CONDITIONS, NOR THE COMPATIBILITY OF THE PRIMER TO ANY FIELD APPLIED COATING. MINOR ABRASIONS TO THE SHOP COAT (INCLUDING GALVANIZING) CAUSED BY HANDLING, LOADING, SHIPPING UNLOADING AND ERECTION AFTER PAINTING OR GALVANIZING ARE UNAVOIDABLE. (MBMA 06 IV 4.2.4)

**GALVALUME**

GALVALUME IS THE TRADE NAME FOR A PATENTED STEEL SHEET & COIL PRODUCT HAVING A COATING OF CORROSION RESISTANT ALUMINIUM-ZINC ALLOY. THE ALLOY MIXTURE IS BALANCED TO OBTAIN THE COATING THAT RETAINS THE CORROSION RESISTANCE & HEAT REFLECTIVITY OF ALUMINIUM & THE SACRIFICIAL ACTION OF GALVANIZED. THE BEST PROPERTIES OF BOTH ALUMINIUM & ZINC ARE COMBINED IN THIS COATING & OFFER ADDED SERVICE LIFE FOR BUILDING PANELS.

**PRE-PAINTED**

USING GALVALUME STEEL AS A SUBSTRATE, PRE-PAINTED STEEL IS GIVEN AN ADDITIONAL RUST INHIBITOR PRIMER COAT. THIS PRIMER COAT FURTHER INCREASES THE CORROSION RESISTANCE. THESE COATINGS ARE APPLIED TO THE EXTERIOR SURFACE OF THE PANELS AND THE WASH COAT, DESIGNED ONLY FOR INTERIOR USE, IS APPLIED ON THE OPPOSITE SIDE. GALVALUME AND PRE-PAINTED STEEL CAN ONE EXCELLENT SERVICE FOR MANY YEARS IF A FEW RULES CONCERNING THEIR CARE AND MAINTENANCE ARE OBSERVED. ALL OF THESE FINISHES ARE EQUALLY SUBJECT TO DAMAGE AND CORROSION WHEN CARE IS NOT PROVIDED.

**PAINT AND COATING MAINTENANCE**

REMOVE SMUDGE MARKS FROM BARE GALVALUME®. FORMULA 409 HAS PROVEN TO BE SOMEWHAT EFFECTIVE. LIGHTLY RUB WITH A CLEAN CLOTH AND RINSE WITH WATER. DO NOT RUB MORE THAN REQUIRED TO REMOVE SMUDGE. NO PRODUCT WILL REMOVE ALL SMUDGE MARKS. REMOVE RUST STAINS. SOFT SCRUB WITHOUT BLEACH HAS PROVEN TO BE SOMEWHAT EFFECTIVE. LIGHTLY RUB WITH A SOFT CLOTH AND RINSE WITH WATER. DO NOT RUB MORE THAN REQUIRED TO REMOVE STAIN. NO PRODUCT WILL COMPLETELY REMOVE RUST STAINS. TO TOUCH-UP SCRATCHES IN PAINT (NOT TO BARE METAL), CLEAN AREA TO BE PAINTED WITH MINERAL SPIRITS. RINSE THOROUGHLY AND FRY. USING A SMALL ARTIST'S BRUSH, LIGHTLY APPLY THE ABSOLUTE MINIMUM AMOUNT OF TOUCH-UP PAINT REQUIRED TO FILL THE SCRATCH. USE ONLY TOUCH-UP PAINT SUPPLIED BY MANUFACTURER. CONTACT YOUR SALES REPRESENTATIVE FOR ASSISTANCE WITH PURCHASING TOUCH-UP PAINT AS NEEDED.

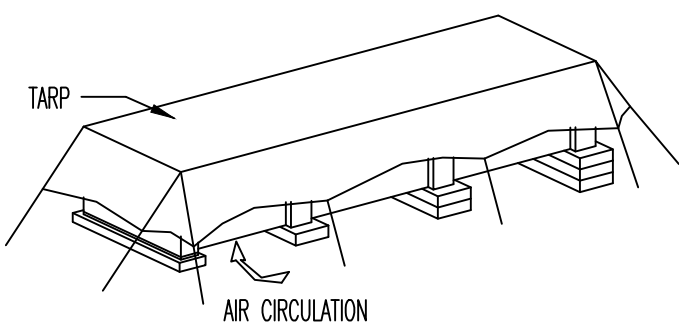
**R1-06**

**R1-02**

**DAMAGE FROM CONDENSATION OR TRAPPED WATER**

IT IS EXTREMELY IMPORTANT THAT THE PANELS BE MONITORED FOR EVIDENCE OF TRAPPED WATER OR MOISTURE CONDENSATION WHILE AWAITING ERECTION. HIGH HUMIDITY CONDITIONS WITH TEMPERATURE CYCLING WILL CAUSE CONDENSATION BETWEEN THE PANELS WITHIN THE BUNDLE. CONDENSATION CAN OCCUR FREQUENTLY NEAR THE SEA COAST OR OTHER LARGE BODIES OF WATER.

IF JOBSITE COVERS ARE USED, THEY SHOULD BE TIED AWAY FROM THE BUNDLE AT THE CORNERS TO ALLOW AIR CIRCULATION AROUND THE BUNDLE. THIS WILL HELP PREVENT MOISTURE EVAPORATING FROM THE GROUND OR BUILDING FLOOR FROM CONDENSING ON THE PANELS. PLASTIC OR OTHER IMPERMEABLE COVERS ARE NOT RECOMMENDED. IMMEDIATE ACTION IS REQUIRED IF THE PANELS ARE FOUND TO BE WET FROM ANY CAUSE. THE BUNDLES MUST BE OPENED AND EACH PANEL UNSTACKED AND THOROUGHLY DRIED ON BOTH SIDES. RE-STACKING THE PANELS AT A SLIGHT ANGLE TO EACH OTHER TO PREVENT NESTING WILL ALLOW AIR CIRCULATION AND ASSIST IN KEEPING THE PANELS DRY. IN SEVERE CONDITIONS LARGE FANS CAN BE USED TO CIRCULATE AIR BETWEEN THE UNSTACKED PANELS AND ACCELERATE DRYING. DAMAGE TO THE PANEL COATING OCCURS WHEN PANELS BECOME WET AND ARE ALLOWED TO STAY WET. DAMAGE CAN OCCUR TO NESTED PANELS WITHIN 24-48 HOURS. THIS DAMAGE SHOWS AS CORROSION AND DISCOLORATION OF THE PANEL SURFACE AND IS COMMONLY CALLED WET STORAGE STAIN, ZINC OXIDATION, OR "WHITE RUST".



A SOFTENING OF THE PAINT FILM CAN OCCUR WITH PRE-PAINTED STEEL UNDER WET STORAGE CONDITIONS AND THE DURABILITY OF THE PANEL FINISH SUBSTANTIALLY DECREASED. BARE GALVANIZED AND GALVALUME PANELS REACT MORE QUICKLY TO SURFACE OXIDATION SINCE THEY LACK THE ADDITIONAL PROTECTION OF PAINT. ZINC COATED OR GALVALUME PANELS UNDER NORMAL EXPOSURE FORM A ZINC OR ALUMINIUM OXIDE FILM ON THEIR SURFACE ALLOWING A SLOW OXIDATION PROCESS CALLED "WEATHERING" TO OCCUR THAT INHIBITS FURTHER CORROSION. IN NESTED BUNDLES CONSTANT CONTACT OF THE PANELS WITH CONDENSATION OR TRAPPED WATER PREVENTS THIS WEATHERING PROCESS.

RAPID OXIDATION OF THE ZINC OR ZINC ALUMINIUM COATING CAN NOW OCCUR AND MAY LEAD TO "RED RUST" IN A SHORT TIME. IF DISCOLORATION OR STAINS ARE MINOR, A HOUSEHOLD CLEANER OF THE TYPE USED ON PORCELAIN SINKS AND BATHUBS MAY BE USED TO REMOVE THE STAINS. WIRE BRUSHING OR USING ABRASIVE MATERIALS SHOULD BE AVOIDED SINCE SCRATCHING OR REMOVAL OF THE COATING COULD OCCUR. PANELS WITH SIGNIFICANT DAMAGE SHOULD BE REPLACED BY THE BUYER BEFORE ERECTION.

**R1-07**

**R1-03**

**SAFETY COMMITMENT**

THE BUILDER/CONTRACTOR IS RESPONSIBLE FOR APPLYING AND OBSERVING ALL PERTINENT SAFETY RULES AND OSHA STANDARDS AS APPLICABLE. THE BUILDING MANUFACTURER HAS A COMMITMENT TO MANUFACTURE QUALITY BUILDING COMPONENTS THAT CAN BE SAFELY ERECTED. HOWEVER, THE SAFETY COMMITMENT AND JOB SITE PRACTICES OF THE ERECTOR ARE BEYOND THE CONTROL OF THE BUILDING MANUFACTURER. IT IS STRONGLY RECOMMENDED THAT SAFE WORKING CONDITIONS AND ACCIDENT PREVENTION PRACTICES BE THE TOP PRIORITY OF ANY JOB SITE. LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, WHETHER STANDARD STATUTORY OR CUSTOMARY, SHOULD ALWAYS BE FOLLOWED TO HELP INSURE WORKER SAFETY. MAKE CERTAIN ALL EMPLOYEES KNOW THE SAFEST AND MOST PRODUCTIVE WAY OF ERECTING A BUILDING. EMERGENCY PROCEDURES SHOULD BE KNOWN TO ALL EMPLOYEES. DAILY MEETINGS HIGHLIGHTING SAFETY PROCEDURES ARE ALSO RECOMMENDED. THE USE OF HARD HATS, RUBBER SOLE SHOES FOR ROOF WORK, PROPER EQUIPMENT FOR HANDLING MATERIAL AND SAFETY NETS WHERE APPLICABLE, ARE RECOMMENDED. FOR PURPOSES OF DETERMINING LIFT REQUIREMENTS, NO BUNDLE SUPPLIED BY THE MANUFACTURER WILL EXCEED 4,000 POUNDS. FOR FURTHER INFORMATION ALSO REFERENCE THE BILL OF MATERIALS FOR INDIVIDUAL MEMBER WEIGHTS OF OTHER STRUCTURAL MEMBERS. IF ADDITIONAL INFORMATION IS REQUIRED CONTACT THE FIELD SERVICE DEPARTMENT.

**ICE AND SNOW REMOVAL**

EXCESSIVE ICE AND SNOW SHOULD BE REMOVED FROM ROOF IMMEDIATELY TO PREVENT DAMAGE TO ROOF AND POSSIBLE COLLAPSE. DO NOT USE METAL TOOLS TO REMOVE THE ICE OR SNOW AS THIS CAN DAMAGE THE PAINT AND/OR GALVALUME COATINGS. ALSO, BE CAREFUL AROUND PLUMBING PIPES AND FLASHINGS.

BE EXTREMELY CAREFUL IF YOUR ROOF HAS LIGHT TRANSMITTING PANELS. THESE PANELS WILL NOT SUPPORT A PERSON'S WEIGHT AND WILL BE DIFFICULT OR IMPOSSIBLE TO SEE IF THEY ARE COVERED WITH ICE AND SNOW. SEE 2002 MBMA LOW-RISE BUILDING SYSTEMS MANUAL APPENDIX AB FOR DETAILS ON SNOW REMOVAL PROCEDURES. THESE PROCEDURES SHOULD COMMENCE WHEN HALF OF THE DESIGN ROOF SNOW LOAD SHOWN ON THIS SHEET IS REALIZED.

**DEBRIS REMOVAL**

ANY FOREIGN DEBRIS SUCH AS SAWDUST, DIRT, LEAVES, ANIMAL DROPPINGS, ETC. WILL CAUSE CORROSION OF THE ROOF, GUTTERS, TRIM, ETC. IF LEFT ON BUILDING SURFACE FOR A LONG ENOUGH TIME. THE ROOF SHOULD BE PERIODICALLY INSPECTED FOR SUCH CONDITIONS AND IF FOUND, THEY SHOULD BE RECTIFIED IN A MANNER CONSISTENT WITH THESE ROOF MAINTENANCE GUIDELINES. NEVER ALLOW TREATED LUMBER OR CONCRETE/MORTAR/GROUT TO COME IN CONTACT WITH ROOF PANELS, ESPECIALLY GALVALUME®, FOR EXTENDED PERIODS OF TIME.

**PERIODIC INSPECTION**

ALL HIGH-STRENGTH BOLTS SHALL BE PERIODICALLY INSPECTED FOR TIGHTNESS, PARTICULARLY IN CRANE BUILDINGS AND AFTER ANY SEISMIC ACTIVITY OR WIND ACTIVITY. THE CRANE MANUFACTURER WILL SPECIFY A MINIMUM PERIOD BUT IT SHOULD NOT EXCEED 2 YEARS.

**DRAINAGE**

- \* KEEP ROOF FREE OF DEBRIS AND KEEP DEBRIS OUT OF GUTTER TO ALLOW WATER TO QUICKLY DRAIN FROM ROOF.
- \* DO NOT USE WOOD BLOCKING TO HOLD EQUIPMENT OFF OF PANEL SEAMS. THIS BLOCKS THE FLOW OF WATER AND HOLDS MOISTURE.
- \* DO NOT ALLOW ROOFTOP AC UNITS OR EVAPORATIVE COOLERS TO DRAIN ONTO THE ROOF.
- \* ANYTHING THAT TRAPS OR HOLDS MOISTURE ON A ROOF WILL CAUSE PREMATURE CORROSION.

**R1-08**

**R1-04**

**ROOF MAINTENANCE GUIDELINES**

- \* INSPECT ROOF FOR DAMAGE AFTER HEAVY STORMS.
- \* INSPECT AND RESEAL AS NECESSARY ALL ROOF CURBS AND OTHER PENETRATIONS WITH URETHANE SEALANT.
- \* ALWAYS GET MANUFACTURER APPROVAL BEFORE MAKING ANY MODIFICATIONS TO THE ROOF.
- \* REPAINT ANY AREAS THAT ARE SUSCEPTIBLE TO RUST AS REQUIRED.
- \* WHEN PERFORMING ROOF MAINTENANCE, ALWAYS TAKE THE FOLLOWING PRECAUTIONS:
  - USE FALL PROTECTION AND OTHER SAFETY EQUIPMENT AS REQUIRED.
  - DO NOT WALK ON ROOF FLASHINGS SUCH AS GUTTER, RAKE, HIP OR RIDGE FLASH.
  - DO NOT WALK ON LIGHT TRANSMITTING PANELS (LTPS). THEY WILL NOT SUPPORT A PERSON'S WEIGHT.
  - GUARD ALL LIPS AND ROOF OPENINGS.
- \* STEP ONLY IN THE PANEL FLAT DIRECTLY ON OR IN CLOSE PROXIMITY TO A SUPPORTING ROOF STRUCTURAL.
- \* AFTER OTHER TRADES HAVE BEEN ON THE ROOF FOR ANY REASON, INSPECT THE ROOF FOR DAMAGE CAUSED BY WORKERS INCLUDING CHEMICAL OR SOLVENT SPILLS, SCRATCHES IN THE PAINT OR GALVALUME® COATING, EXCESSIVE FOOT TRAFFIC AND PUNCTURES. MAKE SURE THAT ANY DEBRIS OR SCRAP LEFT BEHIND BY THE WORKERS IS REMOVED FROM THE ROOF IMMEDIATELY. AVOID USING CUTOFF SAWS AND WELDING EQUIPMENT OVER THE ROOF. IN CASES WHERE THIS IS NOT POSSIBLE, THE ROOF MUST ADEQUATELY PROTECTED.

**FOOT TRAFFIC**

KEEP FOOT TRAFFIC TO A MINIMUM. HEAVY FOOT TRAFFIC CAN CAUSE PONDING ON LOW PITCHED ROOFS. THIS IS PARTICULARLY TRUE JUST UPSLOPE FROM THE EAVE AND AT ENDLAPS. ALWAYS WALK IN THE FLAT OF THE PANEL NEAR A SUPPORTING ROOF STRUCTURAL. DO NOT WALK ON TRIM OR IN GUTTERS. ON BARE GALVALUME® ROOFS, EXCESSIVE FOOT TRAFFIC MAY CAUSE BLACK BURNISH MARKS. IF REGULAR FOOT TRAFFIC IS PLANNED FOR A ROOF, PROVISIONS SHOULD BE MADE FOR A PROPERLY DESIGNED AND INSTALLED ROOF WALKWAY SYSTEM. IN ORDER TO LIMIT ACCESS TO THE ROOF, ROOF HATCHES OR ACCESS LADDERS SHOULD BE LOCKED AT ALL TIMES. A SIGN SHOULD BE POSTED AT THE POINT OF ACCESS, STATING THAT ONLY AUTHORIZED PERSONNEL ARE ALLOWED ONTO THE ROOF. IN ADDITION, A LOG BOOK SHOULD BE KEPT OF ALL VISITS TO THE ROOF AND THE REASON FOR SUCH VISITS.

**DISSIMILAR METALS**

NEVER ALLOW YOUR ROOF TO COME IN CONTACT WITH, OR WATER RUNOFF FROM, ANY DISSIMILAR METAL INCLUDING BUT NOT LIMITED TO: COPPER, LEAD OR GRAPHITE. THIS INCLUDES COPPER AND ARSENIC SALTS USED IN TREATED LUMBER, CALCIUM USED IN CONCRETE, MORTAR AND GROUT.

**R1-09**

**DAMAGE DURING CONSTRUCTION**

THE QUALITY OF WORKMANSHIP IN STEEL ERECTION, CONSTRUCTION PRACTICES, AND HANDLING METHODS USED DURING THE CONSTRUCTION OF THE METAL BUILDING CAN SIGNIFICANTLY AFFECT THE APPEARANCE AND PERFORMANCE OF THE BUILDING PANELS. PANEL DAMAGE DURING CONSTRUCTION CAN BE THE RESULT OF FAULTY INSTALLATION METHODS AND/OR CARELESSNESS.

OVERDRIVEN FASTENERS CAUSE INDENTATIONS OR SHALLOW POCKETS IN THE PANEL AROUND THE FASTENER HEAD. RAIN WATER OR CONDENSED MOISTURE COMBINED WITH ATMOSPHERIC POLLUTANTS (PRINCIPALLY SULFUR DIOXIDES) AND DIRT PARTICLES COLLECT IN THESE POCKETS. THE COMBINATION OF POLLUTANTS AND WATER CREATES AC SOLUTIONS THAT WILL CAUSE CORROSION DAMAGE TO THE PANEL AND FASTENER. RAIN MAY WASH SOME POLLUTANTS AWAY, BUT MOISTURE IN THE FORM OF HIGH HUMIDITY CAN KEEP THESE AREAS WET AND CONTINUE THE PROBLEM. OVERDRIVING THE FASTENER ALSO FORCES THE SEALING WASHER FROM UNDER THE FASTENER HEAD CREATING A LEAK AT THIS POINT. PROPER TORQUE ADJUSTMENT OF THE SCREW GUN OR PREFERABLY THE USE OF A DEPTH GAUGE WILL ELIMINATE THE PROBLEM OF OVERDRIVEN FASTENERS.

IT IS EXTREMELY IMPORTANT THAT ALL DRILL SHAVINGS FROM THE INSTALLATION OF PANEL FASTENERS AND FILLINGS FROM THE SAW CUTTING OF PANELS BE REMOVED FROM THE PANEL SURFACE. CORROSION CAN OCCUR IN A MATTER OF HOURS WHEN THESE SHAVINGS OR FILLINGS ARE NOT REMOVED AND ARE ALLOWED TO COME IN CONTACT WITH WATER OR CONDENSED MOISTURE. WHEN PANELS ARE PRE-DRILLED OR CUT IN THE STACK PRIOR TO ERECTION ALL SHAVINGS OR FILLINGS MUST BE CLEANED FROM BOTH SIDES OF THE PANEL TO PREVENT CORROSION OF THE PANEL BY THESE PARTICLES. IT IS IMPERATIVE THAT THE ROOF BE SWEEP CLEAN AT LEAST DAILY AND CERTAINLY AT JOB COMPLETION. THE FINAL CLEANING OF THE ROOF SHOULD BE DONE PRIOR TO INSTALLING THE GUTTER SO THAT THE SHAVINGS ARE NOT DEPOSITED INTO THE GUTTER AND LEFT TO CORRODE. ANY OTHER FOREIGN OBJECTS OR DEBRIS LEFT BY CONSTRUCTION PERSONNEL SHOULD ALSO BE REMOVED FROM THE ROOF. DURING THE ERECTION OF THE ROOF AND THE INSTALLATION OF EQUIPMENT SUCH AS AIR CONDITIONING UNITS, ETC. .

PERSONNEL WALKING ON THE PANELS CAN CAUSE DAMAGE. WORKMEN SHOULD STEP OR WALK IN THE BROAD FLAT AREAS OF THE PANEL AND AVOID STEPPING ON THE PANEL ENDS AND EDGES WHICH CAN BE BENT BY CARELESS HANDLING. IF THIS DAMAGE IS SEVERE, THE EDGES MUST BE STRAIGHTENED PRIOR TO ERECTION SINCE THE APPEARANCE AND/OR WEATHER TIGHTNESS OF THE PANEL COULD BE AFFECTED. DRAGGING ONE PANEL ACROSS ANOTHER CAN CUT OR ABRASE THE COATING CAUSING UNSIGHTLY MARKS ON THE PANEL SURFACE.

ATTEMPTS TO ERECT PANELS DURING WINDY CONDITIONS SHOULD BE AVOIDED TO PREVENT DAMAGE AND FOR SAFETY CONSIDERATIONS.

LEAVING DIRT PILED AGAINST THE EXTERIOR WALL PANELS AT THE FOUNDATION WILL CAUSE PANEL DAMAGE. THIS DIRT MAY BE WET OR AT LEAST WILL CONTAIN SOME MOISTURE. MUD MAY HAVE BEEN SPLASHED ONTO THE WALL DURING CONSTRUCTION. CORROSION DAMAGE MAY OCCUR WHERE THIS DIRT OR MUD CONTACTS THE PANELS. IN AREAS WHERE LIME STABILIZATION OF THE SOIL IS REQUIRED, CORROSION DAMAGE FROM THE SOIL'S CONTENT WILL BE ACCELERATED AND MOST LIKELY BE SEVERE. ALL DIRT MUST BE REMOVED FROM THE PANEL WALLS AT THE COMPLETION OF THE WORK. PRE-PAINTED PANELS MAY REQUIRE TOUCH-UP IF THE COATING HAS BEEN DAMAGED DURING HANDLING OR ERECTION.

THE APPEARANCE OF THE BLDG. MAY BE AFFECTED IF DAMAGED SPOTS OR SCRATCHES ARE LOCATED IN HIGHLY VISIBLE PLACES SUCH AS AROUND DOORS, WINDOWS, ETC.... IF THE DAMAGE IS EXTENSIVE THEN REPLACEMENT OF THE ENTIRE PANEL SHOULD BE CONSIDERED. TOUCH-UP PAINT CAN BE SUPPLIED BY MANUFACTURER ON REQUEST. THE PAINT SHOULD BE APPLIED WITH A SMALL, SOFT BRISTLE ARTIST'S STYLE BRUSH.

**R1-05**

Revision		Date	Description
<b>Ferro Building Systems</b> 103-18992 60TH AVENUE SURREY, BRITISH COLUMBIA, V5S 3M2 PHONE # 604-530-3224 – FAX # 604-530-9851		<b>Customer Name &amp; Location:</b> FERRO BUILDING SYSTEMS LTD. RCMP STEEL BUILDING, INNISFAIL AB HIGHWAY 7, EXIT 365 - EAST INNISFAIL, AB T4G, 1S6, CN 5600 11TH AVE REGINA, SK S4P 3J7, CN	
Scale: NOT TO SCALE Drawn by: RJA 2/28/13 Checked by: 2207 3/7/13 Project Engineer: Job Number: 12-B-93855		Drawing Status: <input type="checkbox"/> Preliminary <input type="checkbox"/> (Use For Construction) <input checked="" type="checkbox"/> For Approval <input type="checkbox"/> (Use For Construction) <input type="checkbox"/> For Erector Installation	
Sheet Number: R1 of 12			
The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.			