

HOT OR WINDY WEATHER PLACEMENT

HOT WEATHER IS DEFINED BY ACI 305 AS "ANY COMBINATION OF HIGH AIR TEMPERATURE, LOW RELATIVE HUMIDITY, AND WIND VELOCITY, TENDING TO IMPAIR THE QUALITY OF FRESH HARDENED CONCRETE.. ACI 305 FIGURE 2.1.5 SHALL BE USED BY THE CONTRACTOR TO ESTIMATE THE RATE OF EVAPORATION. WHEN THE ESTIMATED RATE OF EVAPORATION IS GREATER THAN 0.2 PSF/HOUR THE PLACEMENT SHALL BE CONSIDERED A HOT WEATHER PLACEMENT. PRECAUTIONS AGAINST PLASTIC SHRINKAGE CRACKING ARE NECESSARY. PRECAUTIONS TAKEN BY THE CONTRACTOR VARY DEPENDING UPON THE FACTORS ASSOCIATED WITH WATER EVAPORATION AND INCLUDE BUT ARE NOT LIMITED TO:

1. LIMITING CONCRETE TEMPERATURE TO 100°F AT TIME OF PLACEMENT.
2. APPLICATION OF AN EVAPORATION RETARDER.
3. USE OF FOG SPRAY.
4. REDUCTION OF POUR SIZE.
5. PLACING CONCRETE AT NIGHT.

CONTROL AND CONSTRUCTION JOINTS

CONSTRUCTION JOINTS SHALL MEET THE REQUIREMENTS OF ACI 301 SECTIONS 2.2.2.5 AND 5.3.2.6. SPECIAL BONDING METHODS PER SECTION 5.3.2.6 SHALL BE SATISFIED BY ITEM 6 BELOW UNLESS OTHERWISE DETAILED ON THE STRUCTURAL DRAWINGS. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN ON PLAN OR ADDITIONAL CONSTRUCTION JOINTS ARE REQUIRED SUBMIT PROPOSED JOINTING FOR STRUCTURAL ENGINEERS APPROVAL. PROVIDE CONSTRUCTION JOINTS AS INDICATED BELOW UNLESS NOTED OTHERWISE ON THE PLANS:

1. SLABS ON GRADE. PROVIDE CONSTRUCTION AND/OR CONTROL JOINTS AT 16 FEET O.C. MAXIMUM FOR UNEXPOSED SLABS ON GRADE AND 12 FEET O.C. FOR EXPOSED SLABS ON GRADE.
2. WALLS AND COLUMNS. COORDINATE CONSTRUCTION JOINTS WITH ARCHITECTURAL REVEALS.
3. BONDING AGENT. WHERE BONDING AGENT IS SPECIFICALLY CALLED OUT ON THE STRUCTURAL DRAWINGS USE "WELD CRETE" BY LARSON PRODUCTS CORPORATION OR PRE-APPROVED EQUAL. FOLLOW ALL MANUFACTURERS RECOMMENDATIONS.
4. ATTACHMENT OF NEW CONCRETE TO EXISTING: WHERE SHOWN, ROUGHEN CONCRETE TO A MINIMUM AMPLITUDE OF 1/4" USING IMPACT HAMMER. REMOVE ALL LOOSE OR DAMAGED CONCRETE, THOROUGHLY FLUSH ALL SURFACES WITH POTABLE WATER, AIR BLAST WITH OIL FREE COMPRESSED AIR TO REMOVE ALL WATER.

EMBEDDED ITEMS

EMBEDDED CONDUIT IS NOT PERMITTED IN SLAB EXCEPT WHERE SPECIFICALLY SHOWN. NO ALUMINUM ITEMS SHALL BE EMBEDDED IN ANY CONCRETE. ALL EMBED PLATES SHALL BE SECURELY FASTENED IN PLACE. ALL EMBEDDED STEEL ITEMS EXPOSED TO EARTH OR WEATHER SHALL BE HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE.

CONCRETE CURING AND SEALING

CURING PROCEDURES SHALL COMMENCE IMMEDIATELY AFTER FINISHING CONCRETE TO MAINTAIN CONCRETE IN A MOIST CONDITION. VERIFY CURING AND/OR SEALING PRODUCTS ARE COMPATIBLE WITH FLOOR COVERINGS SHOWN ON THE ARCHITECTURAL DRAWINGS. FOLLOW ALL MANUFACTURERS RECOMMENDATIONS.

ITEM	CONCRETE CURING NOTES
ALL SLABS ON GRADE AND TOPPING SLABS	2, 3 & 5
ELEVATED SLABS EXPOSED TO EARTH OR WEATHER	2, 3 & 5
ELEVATED SLABS NOT EXPOSED TO EARTH OR WEATHER	2, 3 & 5
BASEMENT WALLS	4
SHOTCRETE WALLS	3
ALL OTHER CONCRETE	NONE

CONCRETE CURING NOTES:

1. PROVIDE PRE-APPROVED MOIST CURE METHOD FOR A MINIMUM OF 7 DAYS.
2. WHEN THE ESTIMATED EVAPORATION RATE IS GREATER THAN 0.2 PSF/HOUR PROVIDE A SPRAY APPLIED EVAPORATION RETARDER IMMEDIATELY AFTER CONCRETE PLACEMENT. THE EVAPORATION RATE MAY BE CALCULATED PER ACI 305 FIGURE 2.1.5.
3. APPLY A LIQUID MEMBRANE FORMING CURING COMPOUND PER MANUFACTURERS RECOMMENDATIONS TO ALL EXPOSED SURFACES IMMEDIATELY AFTER FINAL FINISHING.
4. APPLY A LIQUID MEMBRANE FORMING CURING COMPOUND PER MANUFACTURERS RECOMMENDATIONS TO ALL FORMED SURFACES IMMEDIATELY AFTER FORM REMOVAL. NOT REQUIRED IF FORMWORK REMAINS IN PLACE FOR MORE THAN 7 DAYS.
5. APPLY A SILANE SEALER WITH A MINIMUM SOLIDS CONTENT OF 40% PER MANUFACTURERS RECOMMENDATIONS.

GROUT

NON-SHRINK GROUT: BASF "MASTERFLOW 555" OR PRE-APPROVED EQUAL. GROUT SHALL CONFORM TO CRD-C621 AND ASTM C1107 GRADE B WHEN TESTED AT A FLUID CONSISTENCY PER CRD-C611-85 FOR 30 MINUTES. GROUT MAY BE PLACED FROM A 25 SECOND FLOW TO A STIFF PACKING CONSISTENCY. FILL OR PACK ENTIRE SPACE UNDER PLATES OR SHAPES. FOLLOW MANUFACTURE'S RECOMMENDATIONS FOR PREPARATION, INSTALLATION, AND CURING.

EPOXY GROUT: BASF "PASTE LPL", OR HILTI RE500, OR PRE-APPROVED EQUAL. TWO PART LOW SAG EPOXY. GROUT MAY CONTAIN QUARTZ SAND AGGREGATE AS PROPORTIONED BY THE MANUFACTURER. USE EQUIPMENT WHICH WILL ACCURATELY MIX AND DISPENSE THE COMPONENTS. HOLE SHALL BE DRY AND CLEANED WITH WIRE BRUSH AND PRESSURIZED AIR JUST PRIOR TO INSTALLING GROUT. THE REBAR OR ROD SHALL BE CLEAN AND INSTALLED SLOWLY, AND SHALL BE ROTATED AS IT IS PUSHED INTO THE HOLE. COLD WEATHER GROUTING SHALL BE DONE WITH PROPER GROUT FORMULA. FIRST STAGES OF THE GROUTING OPERATION SHALL BE INSPECTED BY AN AGENT AS RECOMMENDED BY THE OWNER.

REINFORCING STEEL

REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60 (GRADE A706 FOR WELDED BARS UNLESS OTHERWISE NOTED, GRADE 40 FOR BEND OUT BARS). DETAIL, FABRICATE AND PLACE PER ACI 315 AND ACI 318. HORIZONTAL BEAM BARS, VERTICAL COLUMN BARS AND VERTICAL SHEAR WALL BARS SHALL MEET THE REQUIREMENTS OF ACI SECTION 21.2.5. REINFORCEMENT SHALL COMPLY WITH ASTM A706 FOR LOW ALLOY STEEL. BILLET STEEL A615 GRADE 60 REINFORCEMENT MAY BE USED IF THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED STRENGTH BY MORE THAN 18,000 PSI AND THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25.

WELDED WIRE FABRIC REINFORCEMENT. SHALL CONFORM TO ASTM A-82 AND A-185. LAP ONE FULL MESH ON SIDES AND ENDS.

EPOXY COATED BARS SHALL CONFORM TO ASTM A775. BARS SHOULD BE HANDLED CAREFULLY, AVOIDING DAMAGE TO THE COATING. IN THE EVENT THAT THE COATING INCURS MINOR CHIPS OR CRACKS, FIELD REPAIRS MAY BE DONE WITH A TWO PART EPOXY.

REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE					
BAR SIZE	MINIMUM LAP SPLICE LENGTHS ("Ls")		MINIMUM DEVELOPMENT LENGTHS ("Ld")		MINIMUM EMBEDMENT LENGTH FOR STANDARD END HOOKS ("Ldh")
	TOP BARS (1)	OTHER BARS	TOP BARS (1)	OTHER BARS	
#3	2'-0"	1'-6"	1'-6"	1'-3"	0'-7"
#4	2'-8"	2'-0"	2'-0"	1'-7"	0'-9"
#5	3'-4"	2'-7"	2'-7"	2'-0"	1'-0"
#6	4'-0"	3'-1"	3'-1"	2'-4"	1'-2"
#7	5'-10"	4'-6"	4'-6"	3'-6"	1'-5"
#8	6'-8"	5'-2"	5'-2"	3'-11"	1'-7"
#9	7'-6"	5'-10"	5'-10"	4'-6"	1'-9"
#10	8'-6"	6'-6"	6'-6"	5'-0"	2'-0"
#11	9'-5"	7'-3"	7'-3"	5'-7"	2'-3"
#14	MECHANICAL SPLICE REQUIRED		8'-8"	6'-8"	2'-8"
#18	MECHANICAL SPLICE REQUIRED		11'-7"	8'-11"	3'-7"

SPLICE TABLE NOTES:

1. "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.

REINFORCING COUPLERS: "LENTON" BY ERICO PRODUCTS, INC., MBT BAR-LOCK, "NO-SLIP. BY FOX-HOWLETT INDUSTRIES, INC., OR PRE-APPROVED EQUAL. COUPLERS SHALL BE TYPE 2 PER ACI 318 SECTION 21.2.6.

REINFORCING STEEL COVER

PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS NOTED OTHERWISE.

CONCRETE CAST AGAINST EARTH ----- 3"
EXPOSED TO WEATHER OR EARTH ----- 2"
TIES ON BEAMS AND COLUMNS ----- 1-1/2"
WALLS AND SLABS NOT EXPOSED TO WEATHER----- 3/4"

CONCRETE INSERTS: THREADED DOWEL BAR SUBSTITUTIONS SHALL BE MANUFACTURED BY RICHMOND SCREW ANCHOR CO., INC., OR PRE-APPROVED EQUAL AND SHALL BE CAPABLE OF DEVELOPING THE FULL TENSILE CAPACITY OF THE BAR.

POST-TENSIONED CONCRETE

POST-TENSIONED CONCRETE WORK SHALL, IN ADDITION TO CAST-IN-PLACE CONCRETE REQUIREMENTS, CONFORM TO THE FOLLOWING POST-TENSIONING INSTITUTE STANDARDS AND SPECIFICATIONS AND THE STANDARDS AND SPECIFICATIONS THEY REFERENCE. THE CONTRACTOR SHALL OBTAIN AND MAKE AND HAVE READILY AVAILABLE ON SITE THE LATEST VERSION OF THESE STANDARDS:

- POST TENSIONING INSTITUTE:
1. FIELD PROCEDURES MANUAL FOR UNBONDED SINGLE STRAND TENDONS.
 2. SPECIFICATIONS FOR UNBONDED SINGLE STRAND TENDONS.
 3. POST-TENSIONING MANUAL.

POST-TENSIONING MATERIAL

POST-TENSIONING TENDONS SHALL BE STRESS-RELIEVED, LOW RELAXATION STRAND AND SHALL CONFORM TO THE FOLLOWING:

SEVEN WIRE STRAND ASTM DESIGNATION	A416 1/2"
DIAMETER TENDON AREA	0.153 SQ. IN.
ULTIMATE STRENGTH (FPU)	270 KSI

SHEATHING: UNBONDED STRANDS SHALL BE ENCASED IN SHEATHING PER PTI SPECIFICATION SECTION 2.3 AND NOT BE LESS THAN 50 MILS IN THICKNESS. TEARS IN THE SHEATHING SHALL BE REPAIRED PRIOR TO CONCRETE PLACEMENT.

ENCAPSULATION: THE ENCAPSULATION REQUIREMENTS OF PTI SPECIFICATION SECTION 2.2.6.2 SHALL BE MET FOR ALL ANCHORAGES AND COUPLERS UNLESS NOTED OTHERWISE ON THE DRAWINGS. DEAD END ANCHORS SHALL BE GREASED IN THE SHOP. STRESSING END ANCHORS SHALL BE GREASED IN THE FIELD. ALL SLEEVES AND CAPS SHALL BE TRANSLUCENT TO ALLOW FOR VISUAL INSPECTION OF GREASE REQUIREMENTS. SLEEVES SHALL BE COMPLETELY FILLED WITH GREASE AND VOID FREE.

SUBMITTALS

SHOP DRAWINGS: SUPPLIER SHALL SUBMIT SHOP DRAWINGS SHOWING TENDON LAYOUT, DEAD END, AND STRESSING END LOCATIONS, STRESSING SEQUENCE, AND TENDON SUPPORT LAYOUTS WITH DETAILS NECESSARY FOR INSTALLATION. SHOP DRAWINGS SHALL BE SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON.

CALCULATIONS: THE MINIMUM NUMBER OF TENDONS ARE SHOWN ON THE STRUCTURAL DRAWINGS. STRUCTURAL DESIGN IS BASED ON AN AVERAGE FINAL EFFECTIVE FORCE OF 26.8 KIPS PER TENDON UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. THE SUPPLIER SHALL PROVIDE CALCULATIONS INDICATING FINAL EFFECTIVE FORCE FOR ALL TENDON CONDITIONS. ADDITIONAL TENDONS WILL BE REQUIRED IF THE PROPOSED SYSTEM DOES NOT MEET THE FINAL EFFECTIVE FORCE REQUIREMENTS. CALCULATIONS SHALL BE SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON.

MILL CERTIFICATES: SUBMIT MILL CERTS FOR EACH COIL OF STRAND USED. MILL CERTS SHALL INCLUDE: TYPE OF MATERIAL, HEAT NUMBER, DIAMETER, EFFECTIVE AREA, CHEMICAL ANALYSIS, YIELD STRESS AT 1% ELONGATION, TENSILE STRENGTH, ELONGATION AT FAILURE, AND MODULUS OF ELASTICITY.

PLACEMENT

TENDON PLACEMENT: CARE SHALL BE TAKEN THAT TENDONS ARE LOCATED AND HELD IN THEIR DESIGNED POSITIONS. TOLERANCES FOR LOCATION OF PRESTRESSING STEEL SHALL NOT BE MORE THAN ±1/4" VERTICALLY, EXCEPT AS NOTED OR APPROVED BY THE STRUCTURAL ENGINEER. ACCESS TO STRESSING ENDS SHALL BE MAINTAINED WHERE SHOWN. MANUFACTURED CHAIRS SHALL BE USED TO SUPPORT TENDONS. TENDONS SHALL BE SPACED AT 4'-0" MAX.

ADJUSTMENTS: SLIGHT DEVIATIONS IN THE SPACING OF THE SLAB TENDONS WILL BE PERMITTED WHEN REQUIRED TO AVOID OPENINGS, INSERTS, AND DOWELS THAT ARE SPECIFICALLY LOCATED. WHERE LOCATIONS OF TENDONS INTERFERE WITH EACH OTHER, ONE TENDON MAY BE MOVED HORIZONTALLY IN ORDER TO AVOID THE INTERFERENCE.

ANCHORAGES: SHALL BE RECESSED 1-1/2" UNLESS NOTED OTHERWISE.

TENDON STRESSING

STRESSING: STRESSING SHALL NOT START UNTIL FIELD CURED CYLINDER TESTS INDICATE THE CONCRETE IN PLACE HAS REACHED THE SPECIFIED COMPRESSIVE STRENGTH (F'CI) = 3,000 PSI. FORCE AT JACKING END SHALL NOT EXCEED 33 KIPS. STRESS TENDONS IN FOLLOWING ORDER: BANDED OR BEAM TENDONS, GIRDER TENDONS. CONTINUOUS INSPECTION AND RECORDING OF ELONGATIONS IS REQUIRED DURING ALL STRESSING OPERATIONS. THE OBSERVED ELONGATIONS SHALL BE WITHIN (-) 7% OR (+) 7% OF THAT PREDICTED, EXCEPT AS APPROVED BY THE STRUCTURAL ENGINEER. SUBMIT ELONGATION REPORT TO STRUCTURAL ENGINEER AND ARCHITECT FOR APPROVAL PRIOR TO CUTTING TENDONS.

CUTTING: TENDONS SHALL NOT BE CUT UNTIL THE CONTRACTOR HAS OBTAINED WRITTEN APPROVAL TO DO SO BY THE STRUCTURAL ENGINEER AND ARCHITECT. IMMEDIATELY AFTER CUTTING TENDON INSTALL TRANSLUCENT GREASE CAP TO ENSURE NO WATER IS ALLOWED TO COLLECT ON TENDON TAIL, ANCHOR, OR WEDGES. FOR NON-ENCAPSULATED SYSTEMS STRESSING ANCHORS SHALL BE PAINTED WITH RUSTOLEUM OR EQUAL BEFORE FILLING ALL POCKETS WITH NON-SHRINK GROUT.

MISCELLANEOUS POST TENSIONING ITEMS

GROUTING STRESSING POCKETS: STRESSING POCKETS SHALL BE GROUTED WITH NON-SHRINK GROUT WITHIN 5 DAYS OF CUTTING AND CAPPING TENDONS. PROVIDE A BONDING AGENT PER THE MANUFACTURERS RECOMMENDATIONS PRIOR GROUTING.

DRILLING IN POST TENSIONED CONCRETE: DRILLING INTO POST-TENSIONED CONCRETE IS NOT ALLOWED EXCEPT AS APPROVED BY THE STRUCTURAL ENGINEER. AT APPROVED LOCATIONS POWDER DRIVEN FASTENERS AND DRILLED ANCHORS SHALL NOT PENETRATE INTO POST-TENSIONED ELEMENT A DISTANCE GREATER THAN THE MINIMUM COVER OF THE TENDONS

DE-SHORING: SLAB OR BEAMS MAY BE DE-SHORED WHEN ALL TENDONS HAVE BEEN STRESSED, UNLESS SHORING IS REQUIRED TO CARRY FLOORS ABOVE.

CONCRETE GENERAL REQUIREMENTS

COMPOSITE STRENGTHENING SYSTEM: SHALL BE "TYFO" COMPOSITE COLUMN STRENGTHENING SYSTEM BY FYFE CO., OR PRE-APPROVED EQUAL. SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF ASTM D3039, ASTM, D2563, AND ASTM E1142, AND SHALL HAVE A RECORD OF ICC APPROVAL. SYSTEM SHALL BE DESIGNED TO CARRY LOAD INDICATED ON DRAWINGS AND DETAILS. SHOP DRAWINGS AND CALCULATIONS BEARING THE STAMP OF A STRUCTURAL ENGINEER LICENSED AS SUCH IN THE STATE OF WASHINGTON SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW.

SEISMIC SLIP JOINT BEARING PADS: WHERE NOTED, PROVIDE "FABREEKA--PTFE/SBX" STRUCTURAL EXPANSION BEARING AS MANUFACTURED BY FABREEKA, CO., OR PRE-APPROVED EQUAL. POLYTETRAFLUORETHYLENE (PTFE) SURFACE BEARING ELEMENT SHALL BE COMPOSED OF 100 PERCENT VIRGIN (UNFILLED) PTFE POLYMER AND CONFORM TO ASTM D-1457. BEARING PAD SHALL CONFORM TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 14 ED, DIV. II P.381 18.10.2, PREFORMED FABRIC PAD. EPOXY BOND PER MIL-A 14042, STAINLESS STEEL SHALL BE MINIMUM 20 GA, ASTM A-240, TYP 304, MAXIMUM 10 MICRO INCH RMS FINISH. ATTACHMENT PLATES SHALL BE A MINIMUM 10 GA ASTM A36.

MASONRY

MASONRY ASSEMBLIES: SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 21 OF THE IBC, AND SHALL BE TESTED PER SECTION 2105.2 OF THE IBC FOR COMPLIANCE WITH f'm. MINIMUM SPECIFIED COMPRESSIVE STRENGTH, f'm, SHALL BE 1500 PSI FOR CONCRETE MASONRY ASSEMBLIES AND 2600 PSI FOR HOLLOW CLAY MASONRY ASSEMBLIES.

HOLLOW CONCRETE MASONRY UNITS (CMU): SHALL CONFORM TO ASTM C90. MINIMUM FACE SHELL THICKNESS AS DEFINED BY ASTM C90, SECTION 5.3.1. PROVIDE GRADE N, MEDIUM WEIGHT BLOCK WITH MINIMUM SPECIFIED COMPRESSIVE STRENGTH AS NOTED ABOVE. CMU CONSTRUCTION SHALL BE SOLID GROUTED UNLESS NOTED OTHERWISE.

MASONRY VENEER: SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 14 OF THE IBC, AND THE PROJECT SPECIFICATIONS.

MORTAR: SHALL BE TYPE S PER IBC. CONFORM TO ASTM C270. MINIMUM COMPRESSIVE STRENGTH = 1900 PSI.

GROUT: GROUT FOR POURING SHALL BE A FLUID CONSISTENCY. CONFORM TO ASTM C476 AND ACI 530-05. f'g=2000 PSI MINIMUM AT 28 DAYS.

GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION DURING PLACING BEFORE LOSS OF PLASTICITY IN A MANNER TO FILL THE GROUT SPACE. GROUT POURS GREATER THAN 12 INCHES SHALL BE RECONSOLIDATED BY MECHANICAL VIBRATION 15 TO 20 MINUTES AFTER PLACEMENT TO MINIMIZE VOIDS DUE TO WATER LOSS. GROUT POURS 12 INCHES OR LESS IN HEIGHT SHALL BE MECHANICALLY VIBRATED, OR PUDDLED. COVER AND KEEP DRY ALL MASONRY WORK DURING CONSTRUCTION AND PREVENT MOISTURE ABSORPTION INTO MASONRY UNTIL THE ROOFING IS COMPLETE.

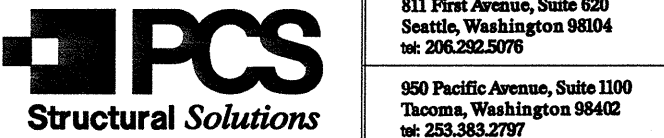
REQUIREMENTS FOR ALL-WEATHER MASONRY CONSTRUCTION:

COLD WEATHER CONSTRUCTION: WHEN AMBIENT TEMPERATURE IS BELOW 40° F, IMPLEMENT COLD WEATHER PROCEDURES

PREPARATION	CONSTRUCTION	PROTECTION
COMPLY WITH THE FOLLOWING REQUIREMENTS PRIOR TO CONDUCTING MASONRY WORK: A. DO NOT LAY MASONRY UNITS HAVING EITHER A TEMPERATURE BELOW 20°F OR CONTAINING FROZEN MOISTURE, VISIBLE ICE, OR SNOW ON THEIR SURFACE. B. REMOVE VISIBLE ICE AND SNOW FROM THE TOP SURFACE OF EXISTING FOUNDATIONS AND MASONRY TO RECEIVE NEW CONSTRUCTION. HEAT THESE SURFACES ABOVE FREEZING, USING METHODS THAT DO NOT RESULT IN DAMAGE.	THESE REQUIREMENTS APPLY TO WORK IN PROGRESS AND ARE BASED ON AMBIENT TEMPERATURE. DO NOT HEAT WATER OR AGGREGATES USED IN MORTAR OR GROUT ABOVE 140° F (60° C). COMPLY WITH THE FOLLOWING REQUIREMENTS DURING THE FOLLOWING AMBIENT CONDITIONS. A. 40° F TO 32° F : (4.4° TO 3.2° C) HEAT SAND OR MIXING WATER TO PRODUCE MORTAR TEMPERATURE BETWEEN 40° F AND 120° F AT THE TIME OF MIXING. GROUT DOES NOT REQUIRE HEATED MATERIALS, UNLESS THE TEMPERATURE OF THE MATERIALS IS LESS THAN 32° F. B. 32° F TO 25° F : (0° TO -3.9° C) HEAT SAND AND MIXING WATER TO PRODUCE MORTAR TEMPERATURE BETWEEN 40° F AND 120° F AT THE TIME OF MIXING. MAINTAIN MORTAR TEMPERATURE ABOVE FREEZING UNTIL USED IN MASONRY. HEAT GROUT AGGREGATES AND MIXING WATER TO PRODUCE GROUT TEMPERATURES BETWEEN 70° F AND 120° F AT THE TIME OF MIXING. MAINTAIN GROUT TEMPERATURE ABOVE 70° F AT THE TIME OF GROUT PLACEMENT. C. 25° F TO 20° F : (-3.9° TO -6.7° C) COMPLY WITH REQUIREMENTS ABOVE AND THE FOLLOWING: HEAT MASONRY SURFACES UNDER CONSTRUCTION TO 40° F (4.4° C) AND USE WIND BREAKS OR ENCLOSURES WHEN THE WIND VELOCITY EXCEEDS 15 MPH (24 KM/H). HEAT MASONRY TO A MINIMUM OF 40° F (4.4° C) PRIOR TO GROUTING. D. 20° F AND BELOW : (-6.7° C) COMPLY WITH REQUIREMENTS ABOVE AND THE FOLLOWING: PROVIDE AN ENCLOSURE AND AUXILIARY HEAT TO MAINTAIN AIR TEMPERATURE ABOVE 32° F (0° C) WITHIN THE ENCLOSURE.	THESE REQUIREMENTS APPLY AFTER MASONRY IS PLACED AND ARE BASED ON ANTICIPATED MINIMUM DAILY TEMPERATURE FOR GROUTED MASONRY AND ANTICIPATED MEAN DAILY TEMPERATURE FOR UNGROUTED MASONRY. PROTECT COMPLETED MASONRY IN THE FOLLOWING MANNER: A. MAINTAIN THE TEMPERATURE OF GLASS UNIT MASONRY ABOVE 40° F (4.4° C) FOR THE FIRST 48 HR AFTER CONSTRUCTION. B. 40° F TO 25° F : (4.4° C TO -3.9° C) PROTECT NEWLY CONSTRUCTED MASONRY BY COVERING WITH A WEATHER-RESISTIVE INSULATING MEMBRANE FOR 24 HR AFTER BEING COMPLETED. C. 25° F TO 20° F : (-3.9° C TO -6.7° C) COVER NEWLY CONSTRUCTED MASONRY COMPLETELY WITH WEATHER-RESISTIVE INSULATING BLANKETS, OR EQUAL PROTECTION, FOR 24 HR AFTER COMPLETION OF WORK. EXTEND TIME PERIOD TO 48 HR FOR GROUTED MASONRY, UNLESS THE ONLY CEMENT IN THE GROUT IS TYPE III PORTLAND CEMENT. D. 20° F AND BELOW : (-6.7° C) MAINTAIN NEWLY CONSTRUCTED MASONRY TEMPERATURE ABOVE 32° F (0° C) FOR AT LEAST 24 HR AFTER BEING COMPLETED BY USING HEATED ENCLOSURES, ELECTRIC HEATING BLANKETS, INFRARED LAMPS, OR OTHER ACCEPTABLE METHODS. EXTEND TIME PERIOD TO 48 HR FOR GROUTED MASONRY, UNLESS THE ONLY CEMENT IN THE GROUT IS TYPE III PORTLAND CEMENT.

HOT WEATHER CONSTRUCTION: IMPLEMENT APPROVED HOT WEATHER PROCEDURES AND COMPLY WITH THE FOLLOWING PROVISIONS

PREPARATION	CONSTRUCTION	PROTECTION
PRIOR TO CONDUCTING MASONRY WORK: A. WHEN THE AMBIENT AIR TEMPERATURE EXCEEDS 100° F (37.8°C), OR EXCEEDS 90° F (32.2° C) WITH A WIND VELOCITY GREATER THAN 8 MPH (12.9 KM/HR): 1. MAINTAIN SAND PILES IN A DAMP, LOOSE CONDITION. 2. PROVIDE NECESSARY CONDITIONS AND EQUIPMENT TO PRODUCE MORTAR HAVING A TEMPERATURE BELOW 120° F (48.9° C). B. WHEN THE AMBIENT TEMPERATURE EXCEEDS 115° F (46.1° C), OR EXCEEDS 105° F (40.6° C) WITH A WIND VELOCITY GREATER THAN 8 MPH (12.9 KM/HR), IMPLEMENT THE REQUIREMENTS ABOVE AND SHADE MATERIALS AND MIXING EQUIPMENT FROM DIRECT SUNLIGHT.	WHILE MASONRY WORK IS IN PROGRESS: A. WHEN THE AMBIENT AIR TEMPERATURE EXCEEDS 100° F (37.8°C), OR EXCEEDS 90° F (32.2° C) WITH A WIND VELOCITY GREATER THAN 8 MPH (12.9 KM/HR): 1. MAINTAIN TEMPERATURE OF MORTAR AND GROUT BELOW 120° F (48.9° C). 2. FLUSH MIXER, MORTAR TRANSPORT CONTAINER, AND MORTAR BOARDS WITH COOL WATER BEFORE THEY COME INTO CONTACT WITH MORTAR INGREDIENTS OR MORTAR. 3. MAINTAIN MORTAR CONSISTENCY BY RETEMPERING WITH COOL WATER. 4. USE MORTAR WITHIN 2 HR OF INITIAL MIXING. B. WHEN THE AMBIENT TEMPERATURE EXCEEDS 115° F (46.1° C), OR EXCEEDS 105° F (40.6° C) WITH A WIND VELOCITY GREATER THAN 8 MPH (12.9 KM/HR), IMPLEMENT THE REQUIREMENTS ABOVE AND USE COOL MIXING WATER FOR MORTAR AND GROUT. ICE IS PERMITTED IN THE MIXING WATER PRIOR TO USE. DO NOT PERMIT ICE IN THE MIXING WATER WHEN ADDED TO THE OTHER MORTAR OR GROUT MATERIALS.	WHEN THE MEAN DAILY TEMPERATURE EXCEEDS 100° F (37.8° C) OR EXCEEDS 90° F (32.2° C) WITH A WIND VELOCITY GREATER THAN 8 MPH (12.9 KM/HR), FOG SPRAY ALL NEWLY CONSTRUCTED MASONRY UNTIL DAMP, AT LEAST THREE TIMES A DAY UNTIL THE MASONRY IS THREE DAYS OLD



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GENERAL NOTES

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