InsulROCK NC EIFS

Exterior Insulation Finish System for Non-Combustible Walls

MANUFACTURER'S SPECIFICATION 07 24 40

Part 1 – GENERAL

1.1 RELATED SECTIONS

.1 Specification 03 30 00 – Cast-in-Place Concrete
.2 Specification 04 20 00 – Unit Masonry
.3 Specification 05 40 00 – Cold-Formed Metal Framing
.4 Specification 06 10 00 – Rough Carpentry
.5 Specification 07 27 00 – Air Barriers
.6 Specification 07 60 00 – Flashing & Sheet Metal
.7 Specification 07 90 00 – Joint Protection (Sealants)
.8 Specification 08 00 00 – Openings
.9 Specification 09 28 00 – Backing Boards and Underlayments

1.2 SYSTEM DESCRIPTION

.1 InsulROCK NC EIFS is an exterior insulation and finish system that includes an air/moisture barrier, or optional air/moisture/vapour barrier, applied to the building substrate as a secondary moisture barrier.
.2 InsulROCK NC EIFS is intended for use where the model building code requires non-combustible cladding.

SPEC NOTES	*1. Code compliance – the suitability of this system, and the incorporation of combustible components, is subject to approval according to Municipal requirements. Check with all authorities having jurisdiction.* *2. Fire-resistance ratings are specific to the substrates (supporting walls), and not to EIFS. InsulROCK NC EIFS is recommended for lot line exposure conditions only.* *3. DuROCK recommends that a water resistive barrier (herein referred to as the "air/moisture barrier") be incorporated into the design of any wall clad with InsulROCK NC EIFS. However, the Designer has the prerogative to omit this component for their design requirements. Contact DuROCK for further guidance.* *4. The DuROCK air/moisture barrier can be specified as forming part of an air barrier system, however, the Designer must indicate this requirement outright. Continuity of the air seal between the DuROCK air/moisture barrier and other elements of the wall must extend through all adjoining element of the building envelope system.* *5. The DuROCK air/moisture barrier can be specified as a vapour barrier if the Designer selects DuROCK Vapour Block. This is recommended when all the thermal insulation is outboard of the substrate.*

1.3 DESIGN REQUIREMENTS

.1 Building Substrates (shall be engineered by others where required):
  .1 Substrate supporting InsulROCK NC EIFS must be structurally sound and continuously supported. All substrates shall be;
    a. Continuous, flat and plumb, with surface variations less than 2 mm/m (¼ inch per 10 ft).
    b. Designed to deflect not more than L/240.

SPEC NOTE	*6. The deflection ratio of L/240 is the ratio by which a wall may be designed to move, e.g., if a wall is 3 m high, it may deflect up to 3/240 = 12.5 mm.*

    c. Clean, dry, and free of any deleterious material that would affect the attachment of the InsulROCK NC EIFS, such as wax, oil, paint, dust and dirt.
  .2 Mass wall substrates include:
    a. Cast-in-place or prefabricated concrete free of form release agents, and concrete or clay brick masonry, unpainted, and free of efflorescence.
    b. Concrete and masonry walls must be cured at least 28 days.

.3 Sheathing boards shall be attached with corrosion resistant screws and supported by engineered light gauge steel stud or wood framing. Sheathing joints must not exceed 3.2 mm ($^1/_8$ inch). Sheathing shall be minimum 12.7 mm (½ inch) thick, and;
   a. Glass-fibre faced gypsum sheathing shall be compliant with ASTM C 1177.
   b. Cement board shall be compliant with ASTM C 1325 or ANSI A118.9.
   c. Fibre-reinforced gypsum sheathing shall be compliant with ASTM C 1278.

SPEC NOTE	*7. InsulROCK NC EIFS can be adapted and designed to be prefabricated or panelized on unitized steel framing that has been engineered for attachment and the anticipated live and dead loads.*

.4 All sheathing boards must be continuously supported by framing, and;
   a. Joints shall not occur at the corners of through-wall penetrations, such as windows or doors.
   b. Boards shall be installed horizontally with vertical joints offset, at least one stud.

.2 Terminations and Expansion Joints
.1 InsulROCK NC EIFS must terminate at least:
   a. 200 mm (8 inches) above finished grade.
   b. 50 mm (2 inches) above roofing systems.

SPEC NOTE	*8. The Designer may devise the termination of EIFS at hard surface grades within 200 mm provided that proper drainage and maintenance are provided as part of the design requirements.*

.2 Expansion and termination joints shall have an elastomeric sealant with a closed-cell foam backer rod or bond breaker tape, as specified in [section 07 90 00] [and] [the architectural drawings].
   a. Sealant joints shall be installed as required in either Subsection 5.6.2 or 9.27.4 of the model building code, and in general compliance with ASTM C 1481.
   b. Expansion joints in InsulROCK NC EIFS are formed by backwrapped terminations in the system, whereby the insulation is encapsulated with the reinforced base coat.

.3 Expansion joints shall be designed by others, and are required at the following locations;
   a. Where expansion joints in the substrate occur, including building expansion joints and where significant structural movement may be expected to occur.
   b. At the abutment of dissimilar substrates.
   c. At deflection tracks in steel framed construction.
   d. At floor lines in wood framed construction.
   e. At changes in roof lines, building shape, or structural system.

SPEC NOTES	*9. Location and size of expansion joints are the responsibility of the designer. Joint width should be designed to be four times greater than the anticipated range of joint movement.* *10. DuROCK recommends that expansion joints be at least 12.7 mm (½ inch) wide, and termination joints should be at least 9.5 mm ($^3/_8$ inch) wide.* *11. Wood framed construction that incorporates engineered wood joist systems may not necessarily require expansion joints. It is the Designer's prerogative to specify expansion joints at these locations.* *12. The termination of InsulROCK NC EIFS at soffits may require a sealant joint to interface with the soffit system. If the orientation of the termination requires drainage for the EIFS, then a drained sealant joint or Uni-Track should be provided, i.e., between the exposed façade and the soffit.* *13. If the soffit is to be constructed with DuROCK EIFS, then a joint may not be required, however, a drip edge, rendered as a reveal or chamfered edge, should be specified on the drawings.*

.4 All sealant joints shall be vented where the InsulROCK NC EIFS or adjoining element is expected to drain.

SPEC NOTE	*14. Vents for sealant joints are recommended as follows:* *a. Spaced not more than 3 m (10 ft) apart in long horizontal joints.* *b. Spaced not more than 1.5 m (5 ft) apart in joints less than 3 m long.* *c. Incorporate plastic masonry vents, or equivalent pest screens, providing a nominal venting area of not less than 3.2 cm^2 (½ in^2).* d. *Vent tubes or leaving gaps in the sealant are also viable alternatives to venting sealant joints.*

.3 Air/Moisture Barrier Transition Membrane:
.1 DuROCK approves the use of the following membranes.
   a. Styrene-butadiene-styrene (SBS) rubberized asphalt self-adhering membranes: Soprema Sopraseal Stick 1100T; Bakor Blueskin SA; and Protecto Wrap EIFS Tape.
   b. Polyolefin-backed self-adhering butyl membrane: Dupont Flexwrap.
   c. Primers shall be in accordance with manufacturer specifications.

.2 Through wall penetrations shall be sealed to the air/moisture barrier with transition membrane.
   a. Membrane shall be installed at all movement joints, junctures to window fenestration, and junctures with roofing membranes.

b. Membrane shall be installed in accordance with manufacturer specifications.
c. Membrane should extend only 50 mm (2 inches) onto the EIFS substrate, and shall not extend more than 75 mm (3 inches).

.4 Decorative Elements:
.1 Mouldings, shapes, trim, and window sills where the InsulROCK NC EIFS may be exposed are to be designed with a slope on all upward facing horizontal projections, sloped not less than:
a. 6:12, rise over run for slopes up to 305 mm (12 inches) wide, or
b. 3:12, rise over run for slopes up to 102 mm (4 inches) wide.

SPEC NOTES	*15. Horizontal projections that do not conform to the above would be acceptable for wall areas that are partially enclosed, such as where a soffit extends out above such projections. Otherwise, metal flashing with a drip edge is recommended.* *16. The use of EPS insulation for decorative shapes or mouldings in conjunction with InsulROCK NC EIFS may not be permitted on lot line exposures. Check with the authorities having jurisdiction.*

.2 Horizontal projections shall be designed, consistent with governing codes and standards, such that these will not be configured or construed as roofing or loadbearing (pedestrian or otherwise).

.5 Flashing:
.1 Corrosion resistant flashing must be installed according to the requirements of section 07 60 00 in general conformance with Part 5 or compliant with 9.27.3 in the model building code.
.2 Flashing must be designed and installed by others, sloping outward with drip edges to direct precipitation to the exterior, and provided at the top of parapet walls and other similar points of termination.

1.4 PERFORMANCE REQUIREMENTS

.1 DuROCK Base Coat and mineral wool insulation tested according to CAN/ULC-S114 – non-combustible, as required by Sentences 3.2.3.7.(1) & (4) in the model building code.
.2 DuROCK Air/Moisture Barrier tested according to ASTM E283 – air leakage rate not greater than 0.02 $L/(s \cdot m^2)$ at 75 Pa, as required by either Sentence 5.4.1.2.(1) or 9.25.3.2.(1) in the model building code.
.3 DuROCK Vapour Barrier tested according to ASTM E96-95 – vapour permeance not greater than $15ng/(Pa \cdot s \cdot m^2)$, as required by Sentence 5.5.1.2.(2) in the model building code.

SPEC NOTE	*17. Wind load resistance of InsulROCK NC EIFS is achieved via attachment to the substrate, hence, the substrate must be designed withstand the anticipated wind loads.*

1.5 SUBMITTALS

.1 Upon request, DuROCK will supply finish coat samples, approximately 200 x 200 mm (8 x 8 inches), providing representation of the texture and colour.

1.6 QUALITY ASSURANCE

.1 EIFS manufacturer shall be a member in good standing of the EIFS Council of Canada, and certified by the EIFS QAP.
.2 EIFS manufacturer shall possess a CCMC Evaluation Report for its primary line of EIFS.
.3 EIFS applicator shall be knowledgeable and experienced in EIFS installation.
.4 EIFS applicator shall install InsulROCK NC EIFS according to DuROCK's requirements.

1.7 DELIVERY, STORAGE & HANDLING

.1 All materials and components shall be:
.1 Supplied by DuROCK Alfacing International Limited or its appointed distributors in the original, unopened packaging with labels clearly identifying each component.
.2 Inspected upon delivery, and any defective materials and/or components are not to be used.
.3 Stored off the ground, under protective cover, away from direct sunlight and kept dry.
.2 All water-based materials, supplied in plastic pails, are to be kept above 4^oC (40^oF) and below 40^oC (104^oF).
.3 All dry-bagged materials shall be kept dry and protected from high humidity and moisture.

1.8 SITE CONDITIONS

.1 Surface and ambient conditions for application of wet-state-materials must be kept above 4^oC (40^oF).
.1 Adhesives applied below 10^oC (50^oF) shall be protected for not less than 48 hours.
.2 Finish coats applied in high humidity conditions will take longer than 24 hours to dry. If such conditions occur, provide supplemental heat to reduce the humidity, or provide protection long enough for finish coats to dry completely.
.2 Wet-state-materials shall not be applied in direct sunlight in temperatures exceeding 30^oC (86^oF) without protective cover.

.3 All work shall be protected from rain, snow, hail, and wind exceeding 25 km/hr (15 mph) for not less than 24 hours after wet material application.
.4 Do not apply materials in weather conditions that will cause adverse affects to performance.

1.9 WARRANTY

.1 InsulROCK NC EIFS is eligible for a limited manufacturer's warranty starting from the date of substantial completion. The [Owner] [Contractor] [Designer] must make a formal application at the end of the project to receive such a warranty.
.2 DuROCK's warranty is effective when materials are paid for in full, and the workmanship complies with this specification.

Part 2 – MATERIALS

2.1 GENERAL

.1 DuROCK Alfacing International Limited, or its appointed distributors, shall supply all the materials and components for the InsulROCK NC EIFS.
.2 Substitution of materials or components shall void the manufacturer's warranty.

2.2 MATERIALS

.1 Air/Moisture Barriers:
  .1 DuROCK Cement Bear – air and moisture barrier for non-combustible construction – water-based acrylic dispersion that is field mixed with Type 10, 20, or 30 Portland cement, mixed together 1:1 by weight, applied with stainless steel trowel or spray equipment.
  .2 DuROCK Vapour Block – air, moisture and vapour barrier for non-combustible construction – water-based styrene-butadiene dispersion that is factory mixed, applied with stainless steel trowel or spray equipment.
.2 Drainage Accessories:
  .1 DuROCK Uni-Track – polyvinyl chloride extrusion providing drainage at horizontal terminations.
.3 Insulation:
  .1 Mineral wool fibre rigid insulation board compliant with ASTM C 612 and CAN/ULC-S114;
    a. "RockBoard 80" manufactured by Roxul Inc. [RSI 0.72 per 25.4 mm (R4.1 per inch)] or alternate manufacturer approved by DuROCK.
    b. Nominal size of sheets being height and width of 610 x 1219 mm (24 x 48 inches).
    c. Insulation thickness varies from 25.4 mm (1 inch) to 127 mm (5 inches).
.4 Adhesive and Base Coats:
  .1 DuROCK Prep Coat A (base coat admixture) – mixed with Prep Coat for base coat applications where the required thickness is 3.2 to 6.4 mm ($^1/_8$ to ¼ inch).
  .2 DuROCK Prep Coat – a water-based acrylic dispersion that is field mixed with Type 10, 20, or 30 Portland cement, used as an adhesive and base coat.
  .3 DuROCK Prep Coat D – a dry acrylic polymer-based material that is field mixed with potable water, used as an adhesive and base coat.
.5 Mechanical Fasteners:
  .1 ULP-302 by Wind-Lock Corp. – high density plastic washers, 44 mm (1¾ inches) in diameter, used in combination with corrosion resistant screws that are suitable for the substrate.
  .2 Hilti IDP – high density plastic fasteners, with 60 mm ($2^3/_8$ inches) diameter heads, used for concrete and masonry substrates.
.6 DuROCK Fibre Mesh – alkali resistant glass fibre reinforcing:
  .1 DuROCK Starter Mesh – nominal 153 g/m^2 (4.5 oz/yd^2) weight, supplied in 241 mm (9½ inches) wide by 45.7 m (150 feet) long rolls.
  .2 DuROCK Fibre Mesh 5 – nominal 165 g/m^2 (4.9 oz/yd^2) weight, supplied in 1 m (39 inches) wide by 44 m (144 feet) long rolls. The DuROCK logo appears on the mesh.
  .3 DuROCK Intermediate Mesh 11 – nominal 370 g/m^2 (11.0 oz/yd^2) weight, supplied in 965 mm (38 inches) wide by 22.9 m (75 feet) long rolls.
  .4 DuROCK High Impact Mesh 15– nominal 523 g/m^2 (15.4 oz/yd^2) weight, supplied in 965 mm (38 inches) wide by 22.9 m (75 feet) long rolls.
  .5 DuROCK Fibre Mesh Tape – self-adhering nominal 88 g/m^2 (2.6 oz/yd^2) weight, supplied in 76 mm (3 inches) wide by 45.7 m (150 feet) long rolls.
.7 Primers & Paint:
  .1 DuROCK Base Primer – water-based, color-pigmented acrylic dispersion used as a primer for DuROCK Finishes, applied by roller or brush.

.2 DuROCK Roll-On – water-based, color-pigmented acrylic coating with a fine sand texture, used as a finish coat on decorative trim and mouldings, applied by roller or brush.

.8 Finish Coats:

.1 DuROCK Finishes – water-based, color-pigmented acrylic finish with integral texture, applied by trowel or spray. Refer to the DuROCK Finishes data sheet for the selection of colour and texture.

.2 DuROCK Specialty Finishes – water-based, exposed colored aggregate finishes with integral texture, applied by trowel or spray. Refer to the data sheet for further information.

2.3 MIXING

.1 All DuROCK water-based products require mixing with a medium duty power-drill (400 – 500 RPM) and stainless steel or corrosion resistant paddle-mixing-blade.

.2 DuROCK water-based pail-packaged products to be mixed with Portland cement are required to be mixed to a uniform consistency prior to mixing with Portland cement.

.1 Prep Coat - Gradually add 15 kg (33 lbs) of Type 10, 20, or 30 Portland Cement to one-half pail of Prep Coat mixing continuously until a workable consistency is attained. Let the mixture stand for approximately 5 minutes, then mix again to temper the mix and increase the pot life, adding up to 250 mL (8 oz) of potable water if required to adjust viscosity.

.2 Cement Bear - Gradually add 13.5 kg (30 lbs) of Type 10, 20, or 30 Portland Cement to one-half pail of Cement Bear mixing continuously until a workable consistency is attained. Let the mixture stand for approximately 5 minutes, then mix again to temper the mix and increase the pot life.

.3 DuROCK dry-based products are to be mixed with potable water in the specified ratio for the product, until a workable consistency is attained. The mixture is to let stand for approximately 5 minutes, then mix again to temper the consistency and increase the pot life, adding up to 250 mL (8 oz) of potable water, if required to adjust viscosity.

.1 Prep Coat D – One bag to 6 L (1.3 imp gal) of potable water.

.2 Prep Coat A – One bag to 10 kg (22 lbs) Prep Coat and 1 L (35 oz) of potable water.

.4 DuROCK non-cementitious water-based pail-packaged factory-mixed products are required to be mixed to a uniform consistency prior to application.

.1 Up to 250 mL (8 oz) of potable water may be added to DuROCK Finishes, when being applied in hot weather, however, water shall not be added to heavily pigmented finishes, i.e., dark colours.

.2 Water is not to be added during the mixing of DuROCK Vapour Block air/moisture barrier, DuROCK Base Primer, DuROCK Roll-On, or DuROCK Specialty Finishes.

.5 Discard any material that has become stiff or hard.

Part 3 – EXECUTION

3.1 GENERAL

.1 Prior to commencing the work, review the substrate and report any deficiencies to the appropriate authority.

.2 Coordinate EIFS work with other trades.

.3 Install InsulROCK NC EIFS following the general principles summarized in ASTM C 1397.

.4 Apply masking and temporary protection to ensure the work of this section does not result in the products staining other components of the building assembly.

.5 Maintain a minimum ambient and surface temperatures above 4°C (40°F) for at least 24 hours after each application of wet-state material.

3.2 AIR/MOISTURE BARRIER

.1 Sheathing board joints shall not exceed 3.2 mm (1/8 inch).

.2 A continuous, uniform coat of moisture barrier shall be applied to the substrate and allowed to dry. Minimum dry thickness shall be: 1.0 mm (39 mils) for Cement Bear; and 0.8 mm (32 mils) for Vapour Block.

.3 Install DuROCK Uni-Track at the horizontal terminations, as delineated in the architectural drawings:

.1 Fasten the track with minimum 25 mm (1 inch) corrosion resistant screws 400 mm (16 inches), or

.2 Adhere the Uni-Track with the air/moisture barrier.

.3 Butt ends tight together. Seal ends at termination points and corners.

.4 Backwrapping of the reinforced base coat is required at all system terminations, including expansion joints. The Starter Mesh shall be encapsulated within the adhesive or air/moisture barrier at least 65 mm (2½ inches) behind the termination edge, and adhered to the substrate directly.

.1 The insulation may be pre-wrapped with the reinforced base coat prior to attachment to the substrate. Note, this is a recommended practice for horizontal terminations where drainage for the InsulROCK NC EIFS is required.

.2 Backwrapping of Starter Mesh must be at least 65 mm (2½ inches) within the adhesive attachment of the insulation to the air/moisture barrier.
.3 Exercise care to ensure the drainage path is not obstructed when backwrapping horizontal terminations that are expected to drain, especially when there is no Uni-Track present.

.5 A second continuous, uniform coat of moisture barrier shall be applied to the substrate and allowed to dry. Minimum dry thickness shall be: 1.0 mm (39 mils) for Cement Bear; and 0.8 mm (32 mils) for Vapour Block.

3.3 INSULATION, BASE COAT & FIBRE MESH

.1 Adhesive shall be applied with a 12.7 x 12.7 x 51 mm (½ x ½ x 2 inches) notched trowel, applied approximately on a 45° angle from the insulation, aligning the notches of adhesive vertically onto the wall.
.1 Insulation shall be placed such that the adhesive makes wet contact with the air/moisture barrier, pressing it firmly while the adhesive is still wet.

.2 The insulation shall be installed such that:
.1 Vertical joints are staggered, boards are oriented lengthwise horizontally, and interior and exterior corners must be interlocked.
.2 Board joints do not align with sheathing board joints and the corners of through-wall penetrations such as windows and doors.
.3 Gaps greater than 1.6 mm ($^{1}/_{16}$ inch) wide must have slivers of insulation fitted to the entire thickness of the insulation.
.4 The gaps left for expansion and termination joints should account for the thickness of the reinforced base coat backwrapping the termination in the EIFS.
.5 Remove any residual adhesive from the insulation board joints that may interfere with the placement of subsequent sheets of insulation.
.6 Allow adhesive to dry for a minimum of 24 hours before base coat application.

.3 Terminations in EIFS must be backwrapped;
.1 Leaving at least 6.4 mm ($^{1}/_{4}$ inch) around the perimeter of windows, doors and other penetrations.
.2 Fibre mesh must be installed at least 229 x 305 mm (9 x 12 inches) at a 45° angle at the corners of all through wall penetrations.
.3 Fibre mesh fully encapsulated within the base coat on all exposed edges of the insulation.

.4 Base Coat and Fibre Mesh:
.1 Base coat shall be applied to the insulation throughout the entire exterior plane of the wall assembly, overlapping the backwrapping at each interface and termination detail.

SPEC NOTE	*18. Reinforcing mesh weight governs the impact resistance of EIFS. PUCCS EIFS with 5 oz. reinforcing mesh is <u>not</u> designed to withstand all impact caused by human force. DuRock recommends 11 oz reinforcing mesh for areas requiring greater impact resistance, and 15 oz impact mesh with 5 oz reinforcing mesh for areas requiring even greater impact resistance. Please note however that PUCCS EIFS is not intended for areas subject to vehicle impact or intentional abuse. It is the Designer's responsibility to specify where 11 oz and 15 oz mesh are to be used.*

.2 Fibre mesh shall be embedded into the wet base coat and the surface shall be rendered uniformly and smooth.
.3 Horizontal and vertical overlapping of the fibre mesh must be at least 100 mm (4 inches).
.4 At interior and exterior corners, the fibre mesh shall be doubled up, overlapping at least 200 mm (8 inches) onto each side of the corner.
.5 High impact mesh, where required, must be installed without overlapping to prevent bulging in the wall surface. Standard weight of 5 oz must be installed overtop of high impact mesh.
.6 Allow base coat to dry for a minimum of 24 hours before installing mechanical fasteners.

.5 Mechanical Fasteners:
.1 Install fasteners through the base coat, such that fasteners are spaced 305 mm (12 inches) apart when fastening into concrete or masonry, and are spaced 203 mm (8 inches) apart vertically when fastening into framing at 406 mm (16 inches) o.c.
.2 Fasteners are placed within 150 mm (6 inches) of all openings, termination points, expansion joints, and corners.
.3 Washers are to be seated flush with the base coat.
.4 Mechanical fasteners must be installed such that the fasteners penetrate:
a. 8 mm ($^{5}/_{16}$ inch) into steel framing
b. 25 mm (1 inch) into concrete and masonry
c. 25 mm (1 inch) into wood framing

.5 Apply base coat to cover the fastener heads and let cure for 24 hours before the next base coat application.
.6 Apply additional base coat until the minimum wet thickness is 2 mm ($^{1}/_{12}$ inch) and the resulting surface is uniformly smooth.
.7 The base coat shall be cured at least 24 hours between coats, as well as before primer and finish are applied.

3.4 PRIMER & FINISH COAT

.1 Where specified, DuROCK Base Primer shall be applied to the reinforced base coat with a roller, brush or spray equipment. Primer must dry at least 4 to 6 hours prior to finish coat application.

SPEC NOTE	
	19. DuROCK recommends the application of primer prior to the finish to enhance the color consistency and durability of the system. DuROCK also recommends application of primer for all dark colored finishes, or applications in hot weather conditions. The Designer must specify if primer is required.

.2 Apply DuROCK Finish Coat in accordance with the recommendations for the specific texture (refer to the appropriate DuROCK product data sheet). Render and float the DuROCK Finish Coat to match the approved color and texture approved by the owner or designer.
  .1 DuROCK requires that Finish Coat not be applied into EIFS expansion joints where the sealant it is to be applied.
  .2 Protect Finish Coat until it is fully dried, and for at least 24 hours after application.
.3 Clean Up:
  .1 Remove masking and temporary protection as required.
  .2 Ensure work of other trades is not adversely affected by the work of this section.
  .3 Remove all leftover materials and garbage from the jobsite.

End of Specification 07 24 40