4272S SUMNER™ SCHIST

1. GENERAL

If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.
The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.

This section relates to SUMNER™ Schist veneer and stone as a facade cladding attached to and laterally supported by a structural wall. Sumner Schist has been issued a Codemark™ Certificate of Conformity.
Modify or extend the above description to suit the project being specified.

Documents

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC B1/AS1	Structure general, 2.0 Masonry
NZBC E2/AS1	External Moisture
AS/NZS 2908.2	Cellulose-cement products - Flat sheet
NZS 3604	Timber-framed buildings
NZS 4210	Masonry construction, materials and workmanship

NZS 3604 should only be referred to for smaller projects. Otherwise reference to AS/NZS 1170 and NZS 1170.5.

Delete from the DOCUMENTS clause any document not cited. List any additional cited documents.

RELATED DOCUMENTS
Refer to the following related documents when preparing this section:

NZBC E2/AS1	*External moisture: 9.0 Wall claddings; 9.2 Masonry veneer*
NZS 4229	*Concrete masonry buildings not requiring specific engineering design*
BRANZ BU 449	*Keeping water out - Timber-framed walls*
BRANZ publication	*Selecting wall claddings*

1.2 MANUFACTURER'S DOCUMENTS

SUMNER™ and other manufacturer's and supplier's documents relating to work in this section are:
SUMNER™ Cladding System Technical Manual
BEAL Appraisal Certificate No. C1108 SUMNER Natural Stone Veneer Cladding System
Codemark Certificate of Conformity No. BCS-141814-CMMNZ

Copies of the above literature are available at:

Web:	www.sumnerschist.co.nz
Email:	james@sumnerschist.co.nz
Telephone:	09 579 3326
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It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.

Warranties

1.3 WARRANTY - MANUFACTURER/SUPPLIER

Provide a material manufacturer/supplier warranty:

15 years	For material components of SUMNER™ Cladding System

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.
Modify or expand the clause to suit project or manufacturer/supplier requirements, options include:

- Change the standard form to be used (check with the manufacturer/supplier, use the general section 1237WA WARRANTY AGREEMENT if required)
- Commence the warranty from the date of purchase (check with the manufacturer/supplier)

1.4 WARRANTY - INSTALLER
Provide an installer warranty:
15 years For installation and weather tightness

- Provide this warranty on the installer standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.
Modify or expand the clause to suit project or installerrequirements, options include:
- Change the standard form to be used (check with the installer, use the general section 1237WA WARRANTY AGREEMENT if required)
- Commence the warranty from the date of purchase (check with the installer)

Requirements

1.5 QUALIFICATIONS
Installers to be experienced in the installation of SUMNER™ Cladding Systems and licensed by SUMNER™. If requested provide evidence of qualification / experience prior to commencing work.

1.6 NO SUBSTITUTIONS
Substitutions are not permitted to any specified system, or associated components and products.

1.7 SAMPLES
Refer to the general section 1270 CONSTRUCTION for details of how samples will be reviewed.

Provide the following samples for review by the Contract Administrator:
~
The general section 1270 CONSTRUCTION describes how samples are to be addressed. Use this clause to describe specific requirements for the samples and prototypes.

Compliance information (Additional options available)

1.8 INFORMATION REQUIRED FOR CODE COMPLIANCE
Provide the following compliance documentation: -
- Manufacturer's, importer's or distributors warranty
- Installer's warranty
- Producer Statement - Construction from the installer
- Producer Statement - Construction Review from an acceptable suitably qualified person
- Other information required by the BCA in the Building Consent Approval documents.

List the Producer Statements - Construction (PS3) required from installers that are required as a condition of carrying out this work.
List also Producer Statements – Construction Review (PS4) required from consultants to be engaged by the Contractor.
Producer Statement – Design (PS1), may be required where certain design work is undertaken by the Contractor or manufacturer / importer / distributor.

Performance - Wind (design by contractor)
This clause is setting a standard of performance for design by the contractor, to meet. Specifiers should therefore consider adding some means of confirming (say by testing or certification) that the performance criteria will be or has been met.
Ensure correct information is supplied in 1220 PROJECT.

1.9 DESIGN PARAMETERS WIND - DESIGN BY CONTRACTOR
Design the installation to the manufacturer's requirements and as appropriate for the project wind design stated in the general section 1220 PROJECT.
Delete the clause if it does not apply and the contractor is not expected to design.

1.10 MAXIMUM HEIGHT
SUMNER™ Schist may be used under general conditions to maximum height of 3 stories, and on chimneys to a maximum height of 10.0m.

2. PRODUCTS

SUMNER™ Cavity System Materials

2.1 SUMNER™ CAVITY BATTENS
45mm x 18mm thick SUMNER™ vertical and horizontal cavity battens manufactured from ABS. Batten lengths; horizontal 1.00m, vertical 2.00m.
Cavity closer/vermin proofing installed by others.

2.2 SUMNER™ BOARD
9mm thick SUMNER™ high density fibre cement sheet to AS/NZS 2908.2.
Sheet size 2400mm x 1200mm.

2.3 FASTENERS - TIMBER FRAME
10g x 60mm stainless steel 316 CSK square drive screws.

2.4 FASTENERS - METAL FRAME
10g x 60mm stainless steel 410 CSK philips self drill screws.

2.5 FASTENERS - MASONRY BACKING
65mm SUMNER™ HPS M6 anchors.

2.6 SUMNER™ PRIME
Designed for site preparation of substrates that are to receive stone adhesive.
Tilt slab should be cleaned down with water.

2.7 SUMNER™ BOARD TAPE
SUMNER™ Flexible Flashing Tape.

2.8 FACADE PANEL FIXING BRACKETS
SUMNER™ stainless steel fixing brackets, fixed with 32mm stainless steel screws.
SUMNER™ stainless steel fixings required at 600mm centres.

2.9 SUMNER™ GRIP ADHESIVE
Two part adhesive specifically designed for heavy weight veneer classification.

SUMNER™ Stone Materials

2.10 SUMNER™ SCHIST PANELS
SUMNER™ Schist non-load bearing masonry panels. Refer to SELECTIONS for type and size.
Ledge and Traditional series.

2.11 SUMNER™ CLADDING STONES
Loose stone supplied by SUMNER™. Refer to SELECTIONS for type and size.
Bluestone, Otago and Sandstone series.

2.12 SOLID L CORNERS
SUMNER™ formed L shaped corners to give a continued effect on corners and columns.
Used for corners, columns etc to give a continuous wrap-around effect.

2.13 NATURAL ENDS
SUMNER™ panels extending past the end of the column to overlap panel on the return face, to give a continued effect on corners and columns.
Used for corners, columns etc to give a continuous wrap around effect.

2.14 CAPPINGS
SUMNER™ capping stones and sills. Refer to SELECTIONS for type and size.
Used for sills, wall cappings, column cappings and as a finishing for letter boxes. Leading edges are chipped to create a natural finish.

2.15 L ANGLE TRIMS
SUMNER™ L angle trims for windows and doors and other but-to details.
Used for windows and doors, or other but-to details.

3. EXECUTION

Conditions

3.1 HANDLING AND STORAGE OF MATERIALS
Store all stone and adhesives indoors and elevated off concrete floors.

3.2 PRE-INSTALLATION REQUIREMENTS
Check work previously carried out and confirm it is of the required standard for this part of the work.
Moisture content: 18% maximum

3.3 TOLERANCES
To NZS 4210, table 2.2 Maximum tolerances.

3.4 MEASURE MATERIALS
Measure materials accurately by weight or volume using suitably calibrated equipment.

3.5 WET WEATHER
Keep stone dry at all times prior to laying. Protect the top row of uncompleted stone walls. Protect freshly laid stonework during interruption through rain and at completion of each day's work.

3.6 COLD WEATHER CONSTRUCTION
When air temperature is below 10°C take the precautions required by NZS 4210: 2.18 Cold weather construction.

3.7 HOT WEATHER CONSTRUCTION
When air temperature is above 32°C, or there is a drying wind and lower temperatures, take the precautions required by NZS 4210: 2.19 Hot weather construction.

3.8 KEEP FACE WORK CLEAN
Keep clean during erection and until completion of the contract works. Turn back scaffold boards at night and during heavy rain. Do not rub face work to remove stains.

Application - generally

3.9 INSTALLATION MANUAL
Carry out all work in accordance with SUMNER™ Technical and Installation Manual.

3.10 COLOUR MIXING
Check all stone panels delivered to site for colour variation, prior to commencing work. Ensure stone panels are thoroughly blended from several pallets to ensure an even colour spread throughout the work.

3.11 UNIFORMITY
Carry up work with no portion more than 1500 mm above another at any time.

3.12 BONDING
Lay stone panels to the required bonding. Refer to SELECTIONS for type.

Surface preparation

3.13 SURFACE PREPARATION - SUMNER™ BOARD
The SUMNER™ Board should be dry and free of all dust, paint or other surface contaminants before the commencement of the Schist stone installation.

Installation

3.14 INSTALL SUMNER™ BATTENS TO SUBSTRATE

Fix SUMNER™ battens to substrate to NZBC E2/AS1: 9.0 Wall claddings, and in accordance with the SUMNER™ Technical and Installation Manual, vertically at 600mm centres, horizontally across top and bottom plates, with 75mm x 3.14 galvanized flat head nails over the wall wrap and flashings.

Ensure that the substrate is suitable for the veneer application, has been installed to the SUMNER™ requirements, and to NZBC B1/AS1.

The substrate must be weather tight, suitable for use with the veneer application and able to take the weight of the stone veneer selected.

Refer to SUMNER™ for advice on maximum height requirements for the project specified. Ensure the timber or steel frame (if used) is strong and structurally capable of supporting the weight of stone panels. Substrate to be securely fastened and properly supported to reduce any movement that may cause cracking.

3.15 INSTALL SUMNER™ BOARD

Fix SUMNER™ board over battens in accordance with the SUMNER™ Technical and Installation Manual, minimum clearance 100mm above exterior paving.

There are two fixing methods. Primary Method for loads up to 75kg/m², and Heavy Weight for loads up to 100kg/m².

3.16 PRIME AND TAPE

Brush apply SUMNER™ Prime to all surfaces that are to receive stone adhesive. Ensure bottom edge of SUMNER™ Board is primed. Apply SUMNER™ Tape to all sheet joints, corners and details in accordance in accordance with the SUMNER™ Technical and Installation Manual. Tape vertical and inter-storey junctions.

3.17 FORM TEMPORARY FOOTING

Form a level temporary timber framed footing fixed to the concrete foundation for the first course to start on.

Do not remove this temporary footing until the adhesive has gone off, leave in place for 24 hours minimum.

3.18 INSTALL SUMNER™ PANELS - FIRST COURSE

Mix SUMNER™ GRIP strictly in accordance with the SUMNER™ Technical and Installation Manual. Starting from an external corner, apply the adhesive to the wall, 1 course high, with a 10mm notched trowel. Butter a thin coat of adhesive to the backside of a short natural end panel. Press the panel into the adhesive on the wall, leaving the panel overhanging the corner by the thickness of the stone. Continue this process along the wall, using the standard SUMNER™ panels, hard butting the panels together (no grout between the joints). For the return wall, butt a standard SUMNER™ panel into the back of the overhanging natural end.

It is important to note that the corner should alternate on every course to avoid seeming.

3.19 INSTALL SUMNER™ PANELS - SECOND AND SUBSEQUENT COURSES

Using screws fix the SUMNER™ facade panel fixing bracket so that it sits hard on top of the 1st course.

Install the fixings at 600mm centres horizontally and vertically using a 32mm screw;
Horizontally - fix 1 SUMNER™ fixing to every stud.
Vertically - set out a vertical chalk line and fix 1 SUMNER™ fixing at 600mm vertically.

Continue laying the courses, staggering the joints from that of the previous course.
On the bottom edge of the panels (to be laid), where the SUMNER™ facade panel fixing bracket will be located, use the angle grinder to check out a seat to the SUMNER™ fixing, so as the panels can hard butt with the 1st course.

Modify to suit the substrate.

3.20 FORM INTERNAL CORNER

To form a clean joint in the internal corner, cut a 45 degree mitre on the standard panel and return.

3.21 FORM EXTERNAL CORNERS - SOLID L CORNERS

Lay preformed L shaped stones. Cladding is in modular predefined lengths. Check dimensions before starting work to ensure the corners will work.

Refer to SUMNER™ Technical and Installation Manual for details.

3.22 FORM EXTERNAL CORNERS - OVERLAP NATURAL ENDS
Use pre-selected panels with minimal face variation and butt them hard into the short natural ends, which extend past the end of the corner. Alternate courses. Use a string line or similar to ensure that the exposed edge of the corner is flush and plumb and that none of the panels sit back too far.
Refer to SUMNER™ Technical and Installation Manual for details.

Flush mounted windows and doors

3.23 FORM FLUSH MOUNTED WINDOW AND DOOR JAMBS
Create staggered jointing to window and door jambs by alternating natural short and long end panels on each course. Lay as a standard panel, butting the natural end of the panel up to the edge of the joinery.

3.24 FORM FLUSH MOUNTED WINDOW AND DOOR HEADS
Screw a SUMNER™ facade panel fixing bracket above the window and door head flashing allowing 5mm for drainage (from the cavity), to sit in the centre of where a standard panel will be located.

3.25 FORM FLUSH MOUNTED WINDOW SILLS
Cut a 15° mitre to the top of a standard panel; adhere to the backing, leaving a 55mm space below the bottom of the joinery. Cut a 15° mitre to the back edge of the capping stone, adhere stone to backing. The top edge of the stone should sit 2mm - 3mm below the edge of the joinery. Do not obstruct joinery weep holes.

Deep reveal windows and doors

3.26 FORM DEEP REVEAL WINDOW AND DOOR JAMBS
Set the windows with the edge of the joinery having a 40mm clearance from the internal corner of the masonry reveal. Treat the corner of the reveal the same as an external corner. Butt the edge of the panel into the internal corner of the reveal.

3.27 FORM DEEP REVEAL WINDOW AND DOOR HEADERS
Screw a SUMNER™ facade panel fixing bracket to the edge of the masonry reveal in the centre of where a standard panel will be located. Adhere standard panels.
Note: SUMNER™ does not recommend hanging stone upside down under any circumstances. SUMNER™ advises to either plaster or paint the surface.

3.28 FORM DEEP REVEAL WINDOW SILLS
Form a plastered bevel to allow the sill to be laid at 15°. Allow to dry for 24 hours. Cut a 15° mitre to the top edge of the standard panel and finish at the edge of the sill reveal. Cut a 15° mitre to the back edge of the SUMNER™ capping stone, coat cut face and plastered sill with adhesive and adhere the capping to the sill as per panels.

Set the height of the joinery including the 50mm thick capping stone, not to obstruct the joinery weep holes. Height will depend on the depth of the reveal, giving allowance for the 15° bevel.
Do not hang stone upside down under any circumstances. SUMNER™ advises to either plaster or paint the underside of the header.

Stone columns

3.29 FORM EXTERNAL SOLID-L CORNERS
Lay preformed L shaped stones. Cladding is in modular predefined lengths. Check column dimensions before starting work to ensure the corners will work.
Refer to SUMNER™ Technical and Installation Manual for details.

3.30 FORM EXTERNAL CORNERS - OVERLAP NATURAL ENDS
Use pre-selected panels with minimal face variation and butt them hard into the short natural ends, which extend past the end of the column. Alternate courses. Use a string line or similar to ensure that the exposed edge of the corner is flush and plumb and that none of the panels sit back too far.

Refer to SUMNER™ Technical and Installation Manual for details.

Completion

3.31 PROGRESSIVE CLEANING
Clean off all contaminants from the face work immediately after they occur.
Note: SUMNER™ Grip has an extremely high adhesive strength and cannot be cleaned off many substrates.

3.32 LEAVE
Leave work to the standard required by following procedures.

3.33 REMOVE
Carefully remove all masking tape from joinery and the temporary timber footing from the foundation. Place in main rubbish disposal area on site.

4. SELECTIONS

4.1 SUMNER™ CAVITY BATTENS

Brand:	SUMNER™
Size:	horizontal: 18mm x 1.0m vertical: 18mm x 2.0m

4.2 SUMNER™ BOARD

Brand:	SUMNER™
Type:	Fibre cement sheet
Size:	2400mm x 1200mm x 9mm
Fixing Method:	~
Fixing method:	*Sumner™ Primary - loads up to 75kg/m²* *Sumner™ Heavy Weight - loads up to 100kg/m².*

4.3 SUMNER™ PRIME

Brand:	SUMNER™ Prime

4.4 SUMNER™ BOARD TAPE

Brand:	SUMNER™ Flexible Flashing Tape

4.5 SUMNER™ FACADE PANEL FIXING BRACKETS

Brand:	SUMNER™
Material:	Stainless steel

4.6 SUMNER™ GRIP ADHESIVE

Brand:	SUMNER™ Grip

4.7 SUMNER™ LEDGE SERIES SCHIST PANELS

Brand:	SUMNER™
Stone type:	SUMNER™ ~
Panel size:	152mm height x 610mm length x 30mm thick (75kg/m²)
Corners:	~
Bonding pattern:	Stretcher bond
Stone type options:	*SUMNER™ Basalt* *SUMNER™ Mosgiel* *SUMNER™ Poolburn* *SUMNER™ Roxbrough*
Corners:	*Natural ends or Solid L corners.*

4.8 SUMNER™ TRADITIONAL SERIES SCHIST PANELS

Brand:	SUMNER™
Stone type:	SUMNER™ ~
Panel size:	200mm height x 565mm length x 30mm thick (75kg/m²)
Corners:	~
Bonding pattern:	Stretcher bond
Stone type options:	*SUMNER™ Westlands* *SUMNER™ Mosgiel-D*

SUMNER™ Wanaka
SUMNER™ Fairburn
SUMNER™ Alpine

Corners: *Natural ends or Solid L corners.*

4.9 SUMNER™ BLUESTONE SERIES LOOSE STONE

Brand: SUMNER™
Stone type: ~
Stone thickness: 30mm - 50mm thick (91.9kg/m²)
Corners: natural ends
Bonding pattern: Stretcher bond
Stone type options: *SUMNER™ Westlands*
SUMNER™ Urban Random
SUMNER™ Urban Linear
SUMNER™ Milton
SUMNER™ Galbraith

4.10 SUMNER™ OTAGO SERIES LOOSE STONE

Brand: SUMNER™
Stone type: ~
Stone thickness: 35mm thick (89.9kg/m²)
Corners: ~
Bonding pattern: Stretcher bond
Stone type options: *Otago Brown*
Otago Wanaka
Corners: *Natural ends or Solid L corners*

4.11 SUMNER™ SANDSTONE SERIES LOOSE STONE

Brand: SUMNER™
Stone type: ~
Stone thickness: 15mm thick (50kg/m²)
Corners: natural ends
Bonding pattern: Stretcher bond
Stone type options: *Tuscan Linear*
Tuscan Bianco

4.12 SUMNER™ SILLS AND CAPPINGS

Brand: SUMNER™
Stone type: ~
Dimensions: ~mm height x ~mm length x ~mm thick
Used for sills, wall cappings, column cappings.

4.13 SUMNER™ L ANGLE TRIMS

Brand: SUMNER™
Stone type: ~
Dimensions: ~mm height x ~mm length x ~mm thick
Used for windows and doors, and other but-to details.

4.14 SUMNER™ STONE COLUMNS

Brand: SUMNER™
Stone type: ~
Dimensions: ~mm height x ~mm length x ~mm thick
Corners: ~
Dimensions: *Ensure column dimensions will be suitable for stone sizes specified*
Corners: *Natural ends or Solid L corners.*