CITY OF MANCHESTER
Department of Public Works
Facilities Division
475 Valley Street, Manchester NH 03103
(603) 624-6444

REQUEST FOR BIDS #FY20-210-27
January 31, 2020

CAULKING AND SEALING SERVICES

The City of Manchester, NH, through its Department of Public Works, Facilities Division, is requesting bids for professional removal of existing caulking’s, prep, and reinstallation of new caulking’s and services in City owned schools and public buildings. This will be an on call and as needed basis.

Bids to be received no later than 3:00 PM Tuesday, February 18, 2020

Deliver to:

Department of Public Works (DPW)
Front Reception Desk
475 Valley Street
Manchester, NH 03103

Instructions and Requirements to Proposers:

All proposals must be received, no later than Tuesday, February 18, 2020 @ 3:00 PM at the address listed in the contact section above. All proposals must be submitted in a sealed envelope and clearly marked in the lower left hand corner “Caulking and Sealing Services” FY20-210-27

All proposals must be submitted to:
Chief Facilities Manager, Department of Public Works – Facilities
Front Reception Desk, 475 Valley Street, Manchester, NH 03103

- Questions or comments regarding this proposal shall be directed in writing only to Eric Krueger via e-mail at ekrueger@manchesternh.gov and received no later than February 13, 2020. All questions and responses pertaining to this bid and/or any amendments will be posted to the City’s purchasing website at www.manchesternh.gov/Purchasing by Friday February 14, 2020. It is the proposer’s responsibility to check the website prior to the submittal deadline to ensure they have the most up to date information pertaining to the RFP. In addition any addendums must be acknowledged in the submitted proposal.

- The DPW is not responsible for bids not properly marked or not received as directed above.
1) **Summary and Scope of Work**

The City of Manchester, NH, owns and maintains approximately 80 structures, grounds and buildings ranging from offices to schools and other city buildings. Manchester is seeking qualified contractors who can perform caulking and sealant services for projects throughout the City of Manchester. Caulking and sealant systems, interior and exterior, brick, block, windows, control joints, contraction joints, expansion joints in concrete and brick structures, stone, precast, roofing coping/flashing and concrete paving.

This caulking bid will establish standard unit costs and other support costs. A typical project (after contractor has supplied bid and approved as a contractor) would entail a site visit to a building with a Facilities representative; quantify the amount of caulking services to be undertaken. Generate a cost estimate based on bid values. Once a purchase order is issued by the City, proceed with removal of existing caulking’s, preparation of joint, installation of new backer rod of the correct size if applicable, and finally the installation of the new caulking joint. Typical existing caulking materials to be replaced will be tested by the City prior to determine if any ACBM is present.

Contractor bidding this project can assume that caulking’s are ACBM free. The contractor will supply all labor, vehicles, tools, testing equipment and parts, which satisfy manufacturer’s applicable requirements and the specifications. All work will follow the specifications attached to this bid package.

The Contractor is required to work and consult with the Facilities Division. The contractor may interact with other permitting agencies and the Manchester Building Department. Also any other permitting agencies in order to insure Federal, State and Local Code requirements and interpretations are met. The contractor shall have all products and methodology reviewed and approved by the Facilities Division prior to installation. It is anticipated that building permits will not be required. The intent of this bid is for caulking services for up to a 5 year contract with annual renewals and any price changes per the CPI as detailed elsewhere in this bid package. Other City of Manchester departments may elect to utilize this contract for services as well.

**Content of Proposals:**

The following information shall be required in the Bid documents: Please keep in order as requested below.

a. On contractor company letterhead, provide an overview statement of your firm/company and its experience in providing the caulking and sealant services.

b. Company Name, Owner and principal contact, address, telephone, cell phone and date established.

c. At least three (3) references, including current contact name and phone number for similar contracts in the last 2 years; Provide contact information of individuals familiar with the work you are using as a reference.

d. Describe your plan for providing the services outlined in the Summary and Scope of Work, including all of the machinery, tools, and skills that will be utilized for these services. Outline your plan to supervise the work being performed and describe any quality control processes you will employ in performing these services.

e. Provide detailed information about the Contractor Warranty of services and Manufacturer warranty shall provide for materials or workmanship. Please specify the length of the warranty as well as any other relevant information.

f. If you or your agency has had a contract terminated for default during the past five years, all such incidents must be described. Termination for default is defined as notice to stop performance due to the vendor’s nonperformance or poor performance; and the issue was either (a) not litigated or (b) litigated, and such litigation determined the vendor to be in default. If default occurred, list complete...
name, address and telephone number of the party. If no such terminations for default have been experienced by the vendor in the past five years, please declare that.

g. Contractor may submit such additional information as it deems necessary or helpful to the City of Manchester’s evaluation process.

h. Provide a completed pricing sheet (Exhibit A) for services requested. Outline any additional costs or upcharges.

i. Completed General Bidder Certification, Acknowledgement by Proposer, Certificate of Non-Collusion and Certificate of Tax Compliance, included in this document; Exhibits B, C, D and E

j. All bidders are required to supply a current copy of their Certificate of Insurance evidencing coverage. Once award of contract is established, Contractor will have 2 weeks to supply a current Certificate of Insurance that meets as outlined in the Insurance Section of this bid request.

k. Proposals shall include standard labor billing rate for repair activities not contemplated at this time.

l. Proposals shall include the material markup % for materials and parts not covered under the caulking contract you are bidding. For example a specialty caulking for say a swimming pool.

m. Final signed and executed contract with the selected bidder/contractor must include all aspects of this bid.

n. One (1) original and one (1) copy of the proposal must be submitted.

o. No late, telephone, fax, or e-mail submissions or modifications to proposals will be accepted.

p. Bids that are incomplete, not properly endorsed or signed, or otherwise contrary to these instructions may be rejected by DPW. The Bid Form must be filled out completely and accurately.

Additional Bidding and project Information.

a. Costs incurred for the preparation of this Bid request shall be the sole responsibility of the contractor/vendor submitting the proposal.

b. Any travel costs, fuel surcharges, meals and time for travel to and from Manchester shall be included in the bid unit costs. No reimbursements for these costs will be considered by the City during the bidding or construction services.

c. A proposal may be withdrawn and resubmitted if done prior to the above deadline for submission. Such request for withdrawal must be made in writing.

d. All Contractors are required to supply a current copy of their Certificate of Insurance evidencing coverage in full force and effect. The successful bidder, within 2 week of chosen and or selected contractor will be required to supply a current Certificate of Insurance that meets or exceeds the City's insurance requirements and to name the Manchester Department of Public Works and the City of Manchester as “Additional Insureds” on their current policy.

e. The City reserves the right to accept any proposal, in whole or in part, to achieve the best proposal as determined by the City at its sole discretion.

f. The City reserves the right to request financial history of the contractor for internal use only.
Caulking and Sealing Bid Package

g. The City shall prepare a contract agreement for the selected firm, to reflect the scope of services of this Bid Request. See Exhibit F

h. The information provided above is to the best of our knowledge. It is the responsibility of the proposing contractor to review this information and to review any plans available, in order to gather and verify any information necessary, to provide a complete and accurate proposal.

**Term of Contract:**

- The initial term or length of the yearly contract will begin on or around April 15, 2020, and end on or around November 30, 2020. The DPW shall have the option to renew the contract for five successive one year periods under the same terms and conditions subject to appropriation of funds.

- The City reserves the right to extend this contract to include additional related services at other City of Manchester public facilities and other City of Manchester departments for an additional five year (5) years from contract execution. The contractor can request in writing a price increase for years 2 thru 5. Price changes for successive years will be based on the CPI Boston area, under services. [https://www.bls.gov/regions/new-england/data/xg-tables/ro1xg01.htm](https://www.bls.gov/regions/new-england/data/xg-tables/ro1xg01.htm)

**Evaluation Criteria:**

1.) Qualifications of Contractor’s experience;

2.) Contractor’s reputation for timely quality performance;

3.) Rates;

4.) Contractor’s past performance;

5.) Contractor’s ability to provide future maintenance and/or services;

6.) Any other applicable factors as DPW determines necessary and Appropriate.

7.) Location of Contractor’s proximity to Manchester, NH.

**Selection Process:**

Proposals will be evaluated by the Chief Facilities Manager and other selection committee members. All participating vendors can check the bid results on the purchasing bid web page about 2 weeks after the bid due date.

Selection criteria will include the Evaluation Criteria listed above contractors quality and price, the bidder’s ability, capacity and reputation and the overall clarity and responsiveness of the proposal to this RFP.

DPW and the Selection Committee at its sole discretion, reserves the right to accept any proposal, in whole or in part, waive minor inconsistencies and/or to negotiate further any terms of the proposal in achieving the best results for the City of Manchester.

DPW and the Selection Committee reserves the right to waive or disregard any informality, irregularity or deficiency in any proposal received.

DPW and the Selection Committee reserves the right to reject any and all proposals for failure to meet the requirements contained herein, to waive any technicalities, and to select the proposal which, DPW and the Selection Committee sole judgment best meets the requirements of the project.
DPW and the Selection Committee will evaluate the facts and may, at its sole discretion, reject the vendor’s proposal if the facts discovered indicate that completion of a contract resulting from this RFP may be jeopardized by selection of this vendor.

DPW and the Selection Committee reserves the right to select more than one vendor where it deems it is in their best interest to do so.

DPW and the Selection Committee may reject any or all proposals for any reason, should it be deemed in the best interests of the City of Manchester to do so. The Department of Public Works also reserves the right to abandon the project or to solicit and re-advertise for other proposals.

DPW and the Selection Committee reserves the right to reject any vendor’s bid submission due to past contractual or performance issues with the City.

DPW and the Selection Committee further reserves the right to make such investigation as it deems necessary to determine the ability of proposers to furnish the required services, and proposers shall furnish all such information for this purpose as the DPW may request.

The Bid opportunity creates no obligation on the part of the City to award a contract or to compensate the proposer for any costs incurred during proposal presentation, response, submission, presentation, or oral interviews (if held). The DPW reserves the right to award a contract based upon proposals received without further discussions or negotiation. Proposers should not rely upon the opportunity to alter their qualifications during discussions.

Proposers must specifically identify any portions of their submittals deemed to contain confidential or proprietary information, or trade secrets. Those portions must be readily separable from the balance of the proposal. Such designations will not necessarily be conclusive, and proposers may be required to justify why the DPW should not, upon written request, disclose such materials.

**Assurances:**

By responding to this RFP, each proposer assures the City that, if selected as a Contractor, they will comply with all provisions of this RFP and the Contractors’ proposal throughout the term of the contract.

**Use of Premises and Removal of Debris:**

The Contractor expressly undertakes at his own expense:

1.) To take every precaution against injuries to persons or damage to property;

2.) To comply with the regulations governing the operations of premises which are occupied and to perform the Contract in such a manner as not to interrupt or interfere with the operation of City;

3.) To store apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of the contractor’s work or the work of any other persons;

4.) To clean up and legally dispose of (away from site), all refuse, rubbish, scrap materials and debris caused by the operation;

5.) All work shall be executed in a workmanlike manner by experienced persons in accordance with the most modern mechanical practices and shall represent a neat appearance when completed.
Caulking and Sealing Bid Package

**INDEMNIFICATION AND INSURANCE REQUIREMENTS**

In consideration of the utilization of Contractor’s services by the City of Manchester and other valuable consideration, the receipt of which is hereby acknowledged, Contractor agrees that all persons furnished by Contractor shall be considered the Contractor’s employees or agents and that the Contractor shall be responsible for payment of all unemployment, social security and other payroll taxes including contributions from them when required by law.

Contractor hereby agrees to protect, defend, indemnify, and hold the City of Manchester and its employees, agents, officers and servants free and harmless from any and all losses, claims, liens, demands and causes of action of every kind and character including but not limited to, the amounts of judgments, penalties, interests, court costs, legal fees and all other expenses incurred by the City arising in favor of any party including claims, liens, debts, personal injuries including injuries sustained by employees of the City, death or damages to property (including property of the City) and without limitation by enumeration, all other claims or demands of every character occurring or in any way incident to, in connection with or arising directly out of this Consultant Agreement. Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, or suits at the sole expense of the Contractor. Contractor also agrees to bear all other costs and expenses related thereto, even if the claim or claims alleged are groundless, false or fraudulent. This provision shall be effective without respect to liability arising out of the Contractor’s services or premise and not in respect to the liability arising out of the sole negligence of the City of Manchester, its employees, agents, officers or servants.

**Contractor agrees to maintain in full force and effect:**

A. Comprehensive General Liability insurance written on occurrence form, including completed operations coverage, personal injury liability coverage, broad form property damage liability, and contractual liability coverage insuring the agreements contained herein. The minimum limits of liability carried on such insurance shall be $1,000,000 each occurrence and, where applicable, in the aggregate combined single limit for bodily injury and property damage liability; $1,000,000 annual aggregate personal injury liability.

B. Automobile liability insurance for owned, non-owned and hired vehicles. The minimum limit of liability carried on such insurance shall be $1,000,000 each accident, combined single limit for bodily injury and property damage. Automobile and Truck Liability covering bodily injury and property damage covering the operation of all motor vehicles and equipment, whether or not owned by the Contractor, being operated in connection with the prosecution of the work under this Contract.

C. Worker’s Compensation insurance whether or not required by the New Hampshire Revised Statutes Annotated, 1955, as amended, with statutory coverage and including employer’s liability insurance with limits of liability of at least $100,000 for each accidental injury and, with respect to bodily injury by disease, $100,000 each employee and $500,000 per policy year.

D. Any and all deductibles on the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of Contractor.

E. Insurance companies utilized must be admitted to do business in New Hampshire or be on the Insurance Commissioner’s list of approved non-admitted companies and shall have a rating of (A) or better in the current edition of Best’s Key Rating Guide.

F. Contractor agrees to furnish certificate(s) of the above mentioned insurance to the City of Manchester within fourteen (14) days from the date of this agreement and, with respect to the renewals of the current insurance policies, at least thirty (30) days in advance of each renewal date. Such certificates shall, with respect to comprehensive general liability and auto liability insurance, name the City of Manchester and the Department of Public Works and their sub-consultants as an additional insured and, with respect to all policies shall state that in the event of cancellation or material change, written notice shall be given to the City of Manchester, Office of Risk Management, 1 City Hall Plaza, Manchester, New Hampshire 03101 and the City of Manchester Department of Public Works, 475 Valley Street, Manchester, New Hampshire 03103, at least (30) days in advance of such cancellation or change.

G. The purchase of the insurance required or the furnishing of the aforesaid certificate shall not be a satisfaction of Contractor’s liability hereunder or in any way modify the Contractor’s indemnification responsibilities to the City of Manchester and the Department of Public Works.

H. It shall be the responsibility of Contractor to ensure all sub Contractor comply with the same insurance requirements that he/she is required to meet.
EXHIBIT A

REQUEST FOR BIDS #FY20-210-27

FEE PROPOSAL, CAULKING SERVICES

MANCHESTER DEPARTMENT OF PUBLIC WORKS, FACILITIES DIVISION
MANCHESTER, NEW HAMPSHIRE

PROPOSAL

The City of Manchester, acting through the Department of Public Works, Facilities Division hereinafter called the “Awarding Authority,” requests contractor pricing for the furnishing of all labor, equipment, and materials required in accordance with the Contract Documents.

The undersigned as bidder declares that the only person or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other firm; that the undersigned has carefully examined the location of the proposed work, the proposed form of Contract and the Contract Documents therein referred to, and the undersigned proposes and agrees if this proposal is accepted, that he will contract with the Awarding Authority to provide all the necessary labor, machinery, tools, apparatus and other means of design to do all the work specified in the Contract in the manner and time therein described and according to the requirements of the Owner therein set forth and the undersigned will take full payment therefore, the following prices:

<table>
<thead>
<tr>
<th>Name of Contractor (Bidder)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorized Signature Print/Sign</td>
<td></td>
</tr>
<tr>
<td>Lead contact name for this project</td>
<td></td>
</tr>
<tr>
<td>Address of Company</td>
<td></td>
</tr>
<tr>
<td>Contact Information. Business and Cell Phone #s</td>
<td></td>
</tr>
<tr>
<td>E-mail address:</td>
<td></td>
</tr>
<tr>
<td>Additional subcontractor names</td>
<td></td>
</tr>
</tbody>
</table>
EXHIBIT A

PROPOSAL COST FORM

CAULKING SERVICES

Manchester Department of Public Works

REQUEST FOR BIDS #FY20-210-27

PRICING SCHEDULE

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Pecora 890</th>
<th>Dow 790</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caulking &amp; Sealant per Linear Foot Unit Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control joints/contraction joints @ ground level &amp; sidewalks to ½&quot;</td>
<td>$/LF</td>
<td>$/LF</td>
<td>LF</td>
</tr>
<tr>
<td>Height: 0' to 15' from ground standard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical &amp; Horizontal Joints less than ½&quot; wide</td>
<td>$/LF</td>
<td>$/LF</td>
<td>LF</td>
</tr>
<tr>
<td>Lift Equipment. Cost of rental plus markup %</td>
<td>%</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Mobilization/Demobilization per site costs if any.</td>
<td>$</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>Material markup percentage (%) for products not listed</td>
<td>%</td>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Standard removal of any existing caulking’s,
- Assume 1,000 lineal foot minimum per site
- Assume standard prep, backer rod and new caulking install
- Any caulking projects that do not meet above criteria will be negotiated on a job to job basis.

| Labor Rates, Lead Foreman, $ per hour | $/Hr |       |
| Labor Rates, workers, $ per hour     | $/Hr |       |
| overtime/holiday/emergency $ charges per hour | $/Hr |       |

Insert a numerical value in all yellow highlighted areas.
Caulking and Sealing Bid Package

The authorized signee agrees that this proposal shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving proposals.

The foregoing is confidential information for the use of the Owner only.

The Bidder certifies that no official or employee of the City of Manchester, New Hampshire is connected in any way with the submission of this proposal.

No official or employee of the State of New Hampshire or the City of Manchester shall have any interest in the Contract during his tenure or one (1) year after.

Statutes of the State of New Hampshire and ordinances of the City of Manchester as they apply to the laws of competitive bidding are made a part of these Contract Documents.

The Bidder further certifies that he has familiarized himself with the data contained in the Bid Requests and has taken the contents thereof into account in the preparation of the bid.
General Bidder Certifications and Disclosures

Firm Name: ______________________________________________________________________

Business Address: _________________________________________________________________

Telephone No.: _______________________  Date of Proposal:  __________________________

I. Criminal and Civil History. By submission of this proposal, the Proposer hereby certifies under oath that the Proposer, its directors, partners, principal officers and key employees have no criminal convictions or adverse civil judgments.

Yes ______  No _______

If the answer is “no”, the Proposer shall disclose under oath the following:

A. The court, date, docket number and description of any and all misdemeanor convictions involving moral turpitude, conviction of a bidding crime and other felony convictions of the bidding Proposer, or the Proposer’s directors, partners, principal officers or key employees. The term “key employee” for each statement shall include, but is not limited to, any employee who has an ownership interest in the Proposer and any employee who shall have contact with the schools, including all delivery personnel. A “bidding crime” is defined as any act in violation of state or federal law including, but not limited to, fraud, conspiracy, collusion, perjury or material misrepresentation. The Proposer shall not be required to disclose any conviction which has been annulled by a court.

B. A list of all civil cases, identifying the Court, date and docket number in which a final verdict was rendered against the bidding Proposer or the Proposer’s directors, partners, principal officers or key employees on the ground of fraud, misrepresentation, dishonesty, deceit, breach of contract or any other matter involving allegations of failure to perform on a contract.

C. The court, date, docket number and description of any felony convictions whatsoever of the Proposer, as well as the contractor’s/vendor’s directors, partners, principal officers or key employees. The term “key employee” includes, but is not limited to, any employee who has an ownership interest in the Proposer and any employee that shall have contact with the schools, including all transportation personnel. The Proposer shall not be required to disclose any conviction which has been annulled by a court.

II. Creditor Relationships and Business History. Proposer hereby certifies that it:

A. Has been in business for _________ years.

B. Is current on all undisputed business debts.

C. Has not filed for bankruptcy protection. In the alternative, Proposer filed for bankruptcy protection on ________________________________.
III. **Equal Opportunity Employer.** Proposer hereby certifies that it is an Equal Opportunity Employer and that it does not engage in any discriminatory hiring or employment practices.

Yes _____  No ______

IV. **Safety and Licensure.** Proposer certifies that it holds all permits, licenses and certifications, whether federal or state, necessary to provide products and services to the District and meets all applicable safety standards.

Yes _____  No ______

V. **Insurances.** Proposer holds all the insurances which shall be required by the District.

Yes _____  No ______

VI. **Criminal Records and Training.** Proposer complies with all criminal records check requirements for its employees and meets all state and federal employee training and licensure requirements. (Note: Registered sex offenders are not allowed on school property under any circumstances.)

Yes _____  No ______

VII. **Contract Performance.** Proposer certifies that it has never had a contract terminated for nonperformance.

Yes _____  No ______

If the answer is no, please provide a separate detailed written description of the circumstances giving rise to termination, providing the name, address and contact information of the terminating party.

VIII. **References.** Bidder must provide 3 references (names, addresses, and telephone numbers) evidencing experience with a project of equivalent nature, scope and size.

*The District reserves the right, at its sole discretion, to reject any Proposal which fails to contain the above-referenced certifications or disclosures. The District reserves the right, at its sole discretion, to reject any Proposer on the basis of any criminal history, civil litigation credit history or business record which it deems to be adverse to the interests of the District.*

Proposer’s Name:____________________________________

By:  ______________________________________________

Title:  ____________________________________________

Date:_____________________________________________
ACKNOWLEDGMENT BY PROPOSER

If Individual or Individuals:

STATE OF ___________
COUNTY OF ___________
Federal Identification Number:

On this ______ day of ______________, 20 ____, before me personally appeared __________________________ known to me to be the same person(s) described in and who executed the within instrument, who, being by me sworn, did give oath that the above-referenced certifications and disclosures are true to the best of his/her information, knowledge and belief and he/she (or they severally) acknowledged to me that he/she (or they) executed the same or their own volition with the intent that the District rely upon said statements.

____________________________________________
Notary Public, State of _____________________________
Commission Expires: ______________________________

If Corporation:

STATE OF ___________
COUNTY OF ___________
Federal Identification Number:

On this ______ day of ______________, 20 ____, before me personally appeared __________________________ known to me known, who, being by me sworn, did give oath that the above-referenced certifications and disclosures are true to the best of his/her information, knowledge and belief and further does say that he/she resides at (give address) ___________________________; that he/she is the (give title) ___________________________ of the (name of corporation) ___________________________, the corporation described in and which executed the above instrument; that he/she knows the seal of the corporation, and that the seal affixed to the instrument is such corporate seal; that it was so affixed by order of the Board of Directors of the corporation, and that he/she signed his/her name thereto by like order of their own volition with the intent that the District rely upon said statements.

____________________________________________
Notary Public, State of _____________________________
Commission Expires: ______________________________
Caulking and Sealing Bid Package

If Partnership:

STATE OF ____________ } Federal Identification Number:

COUNTY OF ____________ } On this ______ day of ____________, 20 ____, before me personally appeared ____________________________, to me known to be the individual who executed the foregoing, and who, being duly sworn, did give oath that the above-referenced certifications and disclosures are true to the best of his/her information, knowledge and belief and further did depose and say that he/she is a partner of the firm of ____________________________ and that he/she has the authority to sign the same, and acknowledged that he/she executed the same as the act and deed of said partnership of their own volition with the intent that the District rely upon said statements.

Notary Public, State of ____________________________

Commission Expires: ____________________________
Caulking and Sealing Bid Package

Exhibit D
Manchester Department of Public Works
475 Valley Street
Manchester, NH 03103

Bid Due: Tuesday February 18, 2020 at 3:00 PM

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club or other organization, entity or group of individuals.

________________________________________________________________________

(Signature) (Title)

________________________________________________________________________

(Typewritten Name)

________________________________________________________________________

(Name of Business)

________________________________________________________________________

(Address)

________________________________________________________________________

(City/State)

________________________________________________________________________

(Phone) (FAX)

________________________________________________________________________

(Date)
CERTIFICATE OF TAX COMPLIANCE ATTESTATION

ATTESTATION CLAUSE

I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state and federal tax returns and paid all state and federal taxes required under law.

**Signature of Individual or Corporate Name (Mandatory)**

By: Corporate Officer (mandatory, if applicable) (Title)

Federal Identification Number

(Address)

(City/State)

(Phone) (FAX)

(Date)

**Approval of a contract or other agreement will not be granted unless the applicant signs this certification clause.**

Providers who fail to correct their non-filing or delinquency will not have a contract or other agreement issued, renewed or extended.
Exhibit F

CONTRACT

CITY OF MANCHESTER
Department of Public Works
Facilities Division
475 Valley Street, Manchester NH 03103
(603) 624-6444

Agreement made (date) __________________, between the City of Manchester, a municipal corporation of the State of New Hampshire, herein referred to as “City”, and TBD Contractor ____________, herein referred to as “Contractor”.

1. TBD Contractor ____________, being the lowest responsible Bidder, shall provide to the City the following supplies, materials, equipment and services as detailed in the Bid Request, which is hereby incorporated by reference and made a part hereof as if set forth herein in full.

2. The City shall pay the price and amount set out in the Contractor’s Bid on delivery to and acceptance by the City of the supplies, materials, equipment and services herein described, and on filing by TBD Contractor , and approval by the City of a verified claim for the amount due.

3. Duration of Contract: Base contract is for one (1) year with provisions (see requirements in bid documents) for up to four (4) annual renewals. The base contract shall start on or about April 15, 2020.

4. The agreement shall be inoperative during such period of time as delivery or acceptance may be rendered impossible by reason of fire, strike, act of God, government regulations, or other cause beyond the control of either party.

5. This agreement shall be binding on the assigns and successors of the parties.

IN WITNESS WHEREOF, the parties have executed this agreement at 475 Valley Street, Manchester, New Hampshire on the day and year first above written.

TBD CONTRACTOR

___________________________
Name

___________________________
Title

CITY OF MANCHESTER:

___________________________
Kevin A. Sheppard, P.E.

___________________________
DPW Director
SCOPE, SPECIFICATIONS AND DETAILS

SCOPE OF WORK/STATEMENT OF NEEDS.
A. Caulking and sealant systems, interior and exterior, brick, block, windows, control joints, contraction joints, expansion joints in concrete and brick structures, stone, precast, roofing coping/flashing and concrete slabs.
B. Identification and application of joint repair using appropriate sealant. Specification of which would be based upon and related to City of Manchester needs. See Specifications section 7920
C. A detailed outline of plans including specification sheets for all materials/coating must be submitted for approval prior to use. See Specifications section 7920
D. The Contractor will need to be knowledgeable in the use sealants listed in specifications. Alternative products may be submitted for review, but must meet or exceed the requirement of specified materials and approved by the City. See Specifications section 7920
E. The Contractor shall provide all labor, materials, equipment and supervision with incidental services necessary to make needed repairs.

Estimates of Work:

1. The Contractor(s) who is selected shall be expected to provide a time schedule for the project and written quote based on the prices provided in the bidding documents. Each quote should provide the quantity of each contract billable unit required to perform the work specified under this contract. The work may only be performed by the Contractor after receiving a Purchase Order from the City of Manchester. Any repairs or work done without a purchase order will be assumed to be at risk by contractor. If repairs are beyond the scope of this pricing, the Contractor is expected to contact the City of Manchester with an explanation and a detailed quote/proposal for these repairs.

2. Invoices submitted by the Contractor for work performed shall be itemized by each location and type of service and the total dollar amount of the invoice(s) submitted shall not exceed the Contractor’s written quote. Invoice will need to show any signed (by owner) changes to original estimate with descriptions.

3. The City of Manchester reserves the right to make or obtain other estimates prior to authorizing the Contractor to proceed in order to comply with the to determine price reasonableness. If the estimate is considered not to be reasonable, the Contractor will be asked to review the estimate and resubmit. If the revised estimate is still considered to be unreasonable, The City of Manchester reserves the right to obtain the work from another source.

4. PRICE ESCALATION/DEESCALATION: Price adjustments for changes in the contractor's price of materials, labor, and transportation may be permitted only on a yearly basis. Request for price adjustments for any other reasons will not be granted. No price increases will be authorized for 365 calendar days after the effective date of the contract. Contractor shall give not less than 30 days advance notice prior to the annual renewal of the contract of any desired price increase. Price changes for successive years will be based on the CPI Boston area, under services. https://www.bls.gov/regions/new-england/data/xg-tables/ro1xg01.htm
The contractor shall document the amount and proposed effective date of any general change in the price of materials and labor. Documentation shall be supplied with the contractor's request for increase which will: (1) verify that the requested price increase is general in scope and not applicable just to the City of Manchester; and (2) verify the amount or percentage of increase which is being passed on to the contractor by the contractor's suppliers. Failure by the contractor to supply the aforementioned verification with the request for price increase will result in a delay of the effective date of such increase. The City of Manchester may verify such change in price independently. However, any increase which the City of Manchester determines is excessive, regardless of any documentation supplied by the contractor, may be cause for cancellation of the contract by the City of Manchester. The City will notify the contractor in writing of the effective date of any increase which is approved. However, the contractor shall fill all purchase orders received prior to the effective date of the price adjustment at the old contract prices.
Protection of Persons and Property:

1. The Contractor shall protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by work performed under this contract.

2. All work areas shall have appropriate safety safeguards and precautions for day and night situations when applicable. This may include but not be limited to highly reflective signs and/or warning lights.

Execution:

1. The time of the work is to be coordinated with the City of Manchester. At least 2 weeks prior to the beginning work. If the Contractor cannot commit to that date, the City of Manchester may elect to use a different contractor. If the contractor does not perform the work on the date that was committed to (inclement weather notwithstanding), the City of Manchester may elect to use a different contractor in the future.

2. Any disruption to traffic (vehicle, bike, sidewalk, etc.) must be coordinated and approved by the City prior to start of work.

Construction Procedures: See Specifications section 7920

1. All sealant/caulking products are to be 100% silicone unless otherwise specified by the City.

2. Removal of existing material: Removal of all existing caulking and sealant is required to create a clean substrate suitable for re-application.

3. Surface Preparation: All surfaces shall be prepared in accordance with manufacture recommendations.

4. Contractor shall provide a seamless caulking/sealant finish to ensure that all seals, cracks, etc. are completed at a professional grade standard.

Field Sampling, Testing, and Inspection:

1. City of Manchester reserves the right to require any and all testing as specified with testing and results to be done at the contractor’s expense. City of Manchester reserves the right to waive testing at any time.

2. All samples and tests shall be taken at such locations and times as to correctly reflect the work, material, and/or final product throughout the project.

3. All tests and inspections shall be made in the presence of City of Manchester personnel unless otherwise instructed.

4. Each phase of the services rendered shall be subject to City of Manchester’s inspection during the Contractor’s operations and after completion of the tasks. Unsatisfactory work shall be corrected for re-inspection after 24 hours or, based on the magnitude of the tasks, after a reasonable span of time allowed for correction. City of Manchester reserves the right to charge the Contractor any additional costs for City of Manchester’s inspection of any tasks that has not been performed satisfactorily at the time of request for inspection.

Other Requirements:

1. Barricades: Contractor shall erect barricades to protect the work area from vehicles and pedestrians if required.
2. Disposal of Debris: The Contractor shall transport all waste off City of Manchester’s property and dispose of it in a manner that complies with Federal, state, and local requirements.

3. Schedule of Work: Except as specified, all work shall be performed during regular working hours, 7 a.m. until 5:00 p.m. on regular working days, Monday through Friday. No work shall be scheduled or performed on Weekends or Holidays unless approved by the City of Manchester.

4. Quality and Discipline of Employees: The Contractor shall continuously maintain adequate protection of all work from damage and shall protect all other property from damage, injury, or loss arising in connection with the work of any unfit person or anyone not skilled in the work assigned.
5. Duty to Protect Property: The Contractor shall continuously maintain adequate protection of all work from damage and shall protect all other property from damage, injury, or loss arising in connection with the work. Any damage to existing utilities, equipment or finished surfaces resulting from the performance of this contract shall be repaired to the Owner's satisfaction at the contractor's expense and approved by the City of Manchester.

6. Safety Precautions: The Contractor shall comply with the rules and regulations of OSHA and the Department of Labor. The Contractor alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances, and methods, and for any damage which may result from their improper construction, maintenance or operation. The contractor shall erect and properly maintain at all times, as required by the conditions and progress of the work, proper safeguards for the protection of workers and the public and shall post danger warnings against any hazards created by the construction operations.

7. WARRANTY (COMMERCIAL): The contractor agrees that the supplies or services furnished under any award resulting from this solicitation shall be covered by the most favorable commercial warranties the contractor gives any customer for such supplies or services. All workmanship shall be guaranteed for (1) one year from time of installation.

8. SUBCONTRACTS: No portion of the work shall be subcontracted without prior written consent of the City of Manchester. In the event that the contractor desires to subcontract some part of the work specified herein, the contractor shall furnish the City of Manchester the names, qualifications and experience of their proposed subcontractors. The contractor shall, however, remain fully liable and responsible for the work to be done by his subcontractor(s) and shall assure compliance with all requirements of the contract.

End of Section
SECTION 07920 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes joint sealants as required:

1. Exterior joints in the following vertical surfaces and horizontal non-traffic surfaces:
   b. Joints between plant-precast architectural concrete units.
   c. Control and expansion joints in unit masonry.
   d. Joints in dimension stone cladding.
   e. Joints in glass unit masonry assemblies.
   f. Joints in exterior insulation and finish systems.
   g. Joints between metal panels.
   h. Joints between different materials listed above.
   i. Perimeter joints between materials listed above and frames of doors, windows, and louvers.
   j. Control and expansion joints in ceilings and other overhead surfaces.
   k. All other exterior joints in vertical surfaces and horizontal nontraffic surfaces
   l. Other joints as indicated.

2. Exterior joints in the following horizontal traffic surfaces:
   a. Control and expansion joints in brick pavers.
   b. Isolation and contraction joints in cast-in-place concrete slabs.
   c. Joints between plant-precast architectural concrete paving units.
   d. Joints in stone paving units, including steps.
   e. Tile control and expansion joints.
   f. Joints between different materials listed above.
   g. Other exterior joints in horizontal traffic surfaces
   h. Other joints as indicated.

3. Interior joints in the following vertical surfaces and horizontal nontraffic surfaces:
   a. Control and expansion joints on exposed interior surfaces of exterior walls.
   b. Perimeter joints of exterior openings where indicated.
   c. Tile control and expansion joints.
   d. Vertical joints on exposed surfaces of interior unit masonry, concrete, walls, and partitions.
   e. Joints on underside of precast concrete
f. Perimeter joints between interior wall surfaces and frames of doors, windows and entrances.
g. Joints between plumbing fixtures and adjoining walls, floors, and counters.
h. Other joints as indicated and as needed.

4. Interior joints in the following horizontal traffic surfaces:
   b. Control and expansion joints in stone flooring.
   c. Control and expansion joints in brick flooring.
   d. Control and expansion joints in tile flooring.
   e. Other joints as indicated.

B. Related Sections include the following: For Reference Only and not included in package.
   1. Division 2 Section "Pavement Joint Sealants" for sealing joints in pavements, walkways, and curbing.
   2. Division 4 Section "Unit Masonry Assemblies" for masonry control and expansion joint fillers and gaskets.
   3. Division 7 Section "Fire-Resistive Joint Systems" for sealing joints in fire-resistance-rated construction.
   4. Division 8 Section "Glazing" for glazing sealants.
   5. Division 8 Section "Plastic Glazing" for plastic glazing sealants.
   6. Division 8 Section "Structural-Sealant-Glazed Curtain Walls" for structural and other glazing sealants.
   7. Division 9 Section "Gypsum Veneer Plaster" for sealing perimeter joints of gypsum veneer plaster partitions to reduce sound transmission.
   8. Division 9 Section "Gypsum Board Assemblies" for sealing perimeter joints of gypsum board partitions to reduce sound transmission.
   9. Division 9 Section "Ceramic Tile" for sealing tile joints.
   10. Division 9 Section Ceilings for sealing edge moldings at perimeters of acoustical ceilings.
   11. Division 9 Section "Chemical-Resistant Brick Flooring" for sealing flooring joints.

1.3 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer’s color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
C. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.

E. SWRI Validation Certificate: For each elastomeric sealant specified to be validated by SWRI's Sealant Validation Program.

F. Qualification Data: For Installer.

G. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.

H. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
   1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
   2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

I. Field Test Report Log: For each elastomeric sealant application.

J. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

K. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

C. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
   1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
   2. Submit not fewer than five pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
   3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
   4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

D. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period preceding the Notice to Proceed with the Work.

1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
2. Test elastomeric joint sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.
3. Test elastomeric joint sealants according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.
4. Test other joint sealants for compliance with requirements indicated by referencing standard specifications and test methods.

E. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints where indicated on Project or, if not indicated, as directed by Owner or Owner’s representative.
2. Conduct field tests for each application indicated below:
   a. Each type of elastomeric sealant and joint substrate indicated.
   b. Each type of nonelastomeric sealant and joint substrate indicated.
3. Notify Owner or Owner’s representative seven days in advance of dates and times when test joints will be erected.
4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
      1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
5. Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.
F. **Mockups:** If Requested by owner. Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution:

1. Joints in mockups of assemblies specified in other Sections that are indicated to receive elastomeric joint sealants, which are specified by reference to this Section.

G. **Preinstallation Conference:** Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

### 1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer[ or are below 40 deg F (5 deg C)].
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

### 1.7 WARRANTY

A. **Special Installer's Warranty:** Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. **Warranty Period:** one year from date of Substantial Completion.

B. **Special Manufacturer's Warranty:** Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. **Warranty Period:** one year from date of Substantial Completion.

C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:

1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
2. Disintegration of joint substrates from natural causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

**PART 2 - PRODUCTS**
2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

B. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Owner or Owner’s representative from manufacturer's full range.

2.3 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

C. Suitability for Immersion in Liquids. Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247 and qualify for the length of exposure indicated by reference to ASTM C 920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.

D. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

E. Multicomponent Nonsag Polysulfide Sealant:

1. Products:
   a. Pacific Polymers, Inc.; Elasto-Seal 227 Type II (Gun Grade).
   b. Pecora Corporation; Synthacalk GC-2+.
   c. Sonneborn, Division of ChemRex Inc.; Sonolastic Polysulfide Sealant.
   d. 

2. Type and Grade: M (multicomponent) and NS (nonsag).
4. Uses Related to Exposure: traffic and nontraffic.
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated and required.
F. Multicomponent Nonsag Immersible Polysulfide Sealant:

1. Available Products:
   b. PolySpec Corp.; T-2235-M.

2. Type and Grade: M (multicomponent) and NS (nonsag).
4. Uses Related to Exposure: as applicable to joint substrates indicated.

G. Multicomponent Pourable Polysulfide Sealant [ES-<#>]:

1. Products:
   b. Pacific Polymers, Inc.; Elastoseal 227 Type I (Pourable).

2. Type and Grade: M (multicomponent) and P (pourable).
4. Uses Related to Exposure: T (traffic) and NT (nontraffic).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

H. Single-Component Nonsag Polysulfide Sealant:

1. Products:
   a. Pacific Polymers, Inc.; Elastoseal 230 Type I (Gun Grade).
   b. Polymeric Systems Inc.; PSI-7000.

2. Type and Grade: S (single component) and NS (nonsag).
4. Use Related to Exposure: NT (nontraffic).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

I. Multicomponent Nonsag Neutral-Curing Silicone Sealant:

1. Products:
   a. Dow Corning Corporation; 756 H.P.

2. Type and Grade: M (multicomponent) and P (pourable).
3. Class: 50.
4. Use Related to Exposure: NT (nontraffic).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

J. Multicomponent Pourable Neutral-Curing Silicone Sealant:

1. Products:
a. Dow Corning Corporation; FC Parking Structure Sealant.

2. Type and Grade: M (multicomponent) and P (pourable).
4. Uses Related to Exposure: T (traffic) and NT (nontraffic).
5. Uses Related to Joint Substrates: applicable to joint substrates indicated, O.

K. Single-Component Pourable Neutral-Curing Silicone Sealant:

1. Products:
   a. Dow Corning Corporation; 890-SL.
   b. Pecora Corporation; 300 Pavement Sealant (Self Leveling).
   c. Dow Corning Corporation; SL Parking Structure Sealant.

2. Type and Grade: S (single component) and P (pourable).
3. Class: 100/50.
4. Uses Related to Exposure: NT and [T (traffic)].
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

a.

L. Single-Component Silicone Sealant:

1. Products:
   a. Dow Corning Corporation; 790.
   b. GE Silicones; SilPruf LM SCS2700.
   c. Tremco; Spectrem 1 (Basic).
   d. GE Silicones; SilPruf SCS2000.
   e. Dow Corning Corporation; 791.
   f. Dow Corning Corporation; 795
   g. GE Silicones; SilPruf NB SCS9000.
   h. GE Silicones; UltraPruf II SCS2900.

2. Type and Grade: S (single component) and NS (nonsag).
3. Use Related to Exposure: NT (nontraffic).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.
5. Stain-Test-Response Characteristics: Nonstaining to porous substrates per ASTM C 1248.

M. Single-Component Neutral-Curing Silicone Sealant [ES-<#>]:

1. Products:
   a. Dow Corning Corporation; 799.
   b. GE Silicones; UltraGlaze SSG4000.
   c. GE Silicones; UltraGlaze SSG4000AC.
   d. Tremco; Proglaze SG.
   e. Tremco; Spectrem 2.
f. Tremco; Tremsil 600.

2. Type and Grade: S (single component) and NS (nonsag).
4. Use Related to Exposure: NT (nontraffic).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated

N. Single-Component Acid-Curing Silicone Sealant:
   1. Products:
      a. Dow Corning Corporation; 999-A.
      b. Dow Corning Corporation; Trademate Glazing.
      c. GE Silicones; Construction SCS1200.
      d. GE Silicones; Contractors SCS1000.
      e. GE Silicones; Sanitary SCS1700.
   2. Type and Grade: S (single component) and NS (nonsag).
   4. Use Related to Exposure: NT (nontraffic).
   5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

O. Single-Component Mildew-Resistant Neutral-Curing Silicone Sealant:
   1. Products:
      a. Pecora Corporation; 898.
      b. Tremco; Tremsil 600 White.
   2. Type and Grade: S (single component) and NS (nonsag).
   4. Use Related to Exposure: NT (nontraffic).
   5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

P. Single-Component Mildew-Resistant Acid-Curing Silicone Sealant:
   1. Products:
      a. Dow Corning Corporation; 786 Mildew Resistant.
      b. GE Silicones; Sanitary SCS1700.
      c. Tremco; Tremsil 200.
   2. Type and Grade: S (single component) and NS (nonsag).
   4. Use Related to Exposure: NT (nontraffic).
   5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

Q. Multicomponent Nonsag Urethane Sealant:
   1. Products:
      a. Pecora Corporation; Dynatrol II.
b. Tremco; Dymeric 511.
c. Tremco; Vulkem 922.

2. Type and Grade: M (multicomponent) and NS (nonsag).
3. Class: 50.
4. Use Related to Exposure: NT (nontraffic) and T (traffic).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

R. Multicomponent Nonsag Urethane Sealant:

1. Products:
   a. Sika Corporation, Inc.; Sikaflex - 2c NS TG.
   b. Sonneborn, Division of ChemRex Inc.; NP 2.
   c. Tremco; Vulkem 227.
   d. Tremco; Vulkem 322 DS.

2. Type and Grade: M (multicomponent) and NS (nonsag).
4. Use Related to Exposure: T (traffic) and NT (nontraffic).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

S. Multicomponent Nonsag Urethane Sealant:

1. Products:
   a. Bostik Findley; Chem-Calk 500.
   b. Pacific Polymers, Inc.; Elasto-Thane 227 R Type II (Gun Grade).
   c. Polymeric Systems Inc.; PSI-270.
   d. Tremco; Dymeric.

2. Type and Grade: M (multicomponent) and NS (nonsag).
4. Additional Movement Capability: 40 percent movement in extension and 25 percent in compression for a total of 65 percent movement.
5. Use Related to Exposure: NT (nontraffic).
6. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

T. Multicomponent Nonsag Urethane Sealant:

1. Products:
   a. Pacific Polymers, Inc.; Elasto-Thane 227 High Shore Type II (Gun Grade).
   b. Pacific Polymers, Inc.; Elasto-Thane 227 Type II (Gun Grade).
   c. Pecora Corporation; Dynatred.
   d. Polymeric Systems Inc.; PSI-270.

2. Type and Grade: M (multicomponent) and NS (nonsag).
4. Use Related to Exposure: T (traffic).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.
U. Multicomponent Nonsag Immersible Urethane Sealant

1. Products:
   a. Pacific Polymers, Inc.; Elasto-Thane 227 R Type II (Gun Grade).
   b. Pecora Corporation; Dynatred.
   c. Tremco; Vulkem 227.
   d. Tremco; Vulkem 322 DS.

2. Type and Grade: M (multicomponent) and NS (nonsag).
4. Use Related to Exposure: T (traffic), NT (nontraffic) and I (immersible).
5. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

V. Multicomponent Pourable Urethane Sealant:

1. Products:
   a. Meadows, W. R., Inc.; POURTHANE.
   b. Tremco; THC-901.
   c. Tremco; THC-900.
   d. Tremco; Vulkem 245.

2. Type and Grade: M (multicomponent) and P (pourable).
3. Use Related to Exposure: T (traffic).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

W. Multicomponent Pourable Urethane Sealant:

1. Products:
   a. Sika Corporation, Inc.; Sikaflex - 2c SL.
   b. Sonneborn, Division of ChemRex Inc.; SL 2.

2. Type and Grade: M (multicomponent) and P (pourable).
3. Use Related to Exposure: T (traffic) and NT (nontraffic).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

X. Multicomponent Pourable Immersible Urethane Sealant:

1. Products:
   a. Pacific Polymers, Inc.; Elasto-Thane 227 R Type II (Self Leveling).
   b. Tremco; Vulkem 245.

2. Type and Grade: M (multicomponent) and P (pourable).
3. Use Related to Exposure: T (traffic), NT (nontraffic) and I (immersible).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

Y. Single-Component Nonsag Urethane Sealant:

1. Products:
b. Sika Corporation, Inc.; Sikaflex - 15LM.
c. Sonneborn, Division of ChemRex Inc.; Ultra.
d. Sonneborn, Division of ChemRex Inc.; NP 1.
e. Tremco; Vulkem 116.

2. Type and Grade: S (single component) and NS (nonsag).
3. Uses Related to Exposure: T (traffic) and NT (nontraffic).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

Z. Single-Component Nonsag Urethane Sealant:

1. Products:
   a. Tremco; DyMonic.
   b. Tremco; Vulkem 921.
   c. Tremco; Vulkem 931.

2. Type and Grade: S (single component) and NS (nonsag).
3. Use Related to Exposure: NT (nontraffic).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

AA. Multicomponent Nonsag Immersible Urethane Sealant:

1. Products:
   a. Tremco; Vulkem 116.
   b. Tremco; Vulkem 921.

2. Type and Grade: M (multicomponent) and P (pourable).
3. Uses Related to Exposure: T (traffic), NT (nontraffic) and I (immersible).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

BB. Single-Component Pourable Urethane Sealant:

1. Products:
   a. Sika Corporation, Inc.; Sikaflex - 1CSL.
   b. Sonneborn, Division of ChemRex Inc.; SL 1.
   c. Tremco; Vulkem Nova 300 SSL.

2. Type and Grade: S (single component) and P (pourable).
3. Uses Related to Exposure: T (traffic) and NT (nontraffic).
4. Uses Related to Joint Substrates: as applicable to joint substrates indicated.

CC. Single-Component Pourable Urethane Sealant:

1. Products:
   a. Bostik Findley; Chem-Calk 950.
   b. Pecora Corporation; Urespan NR-201.
2. Type and Grade:  S (single component) and P (pourable).
4. Use Related to Exposure:  T (traffic).
5. Uses Related to Joint Substrates:  as applicable to joint substrates indicated.

2.4 SOLVENT-RELEASE JOINT SEALANTS

A. Acrylic-Based Solvent-Release Joint Sealant [SRS-<#>]:  Comply with ASTM C 1311 or FS TT-S-00230.
   1. Products:
      b. Tremco; Mono 555.

B. Butyl-Rubber-Based Solvent-Release Joint Sealant [SRS-<#>]:  Comply with ASTM C 1085.
   1. Products:
      a. Bostik Findley; Bostik 300.
      b. Sonneborn, Division of ChemRex Inc.; Sonneborn Multi-Purpose Sealant.
      c. Tremco; Tremco Butyl Sealant.

C. Pigmented Narrow-Joint Sealant:  Manufacturer's standard, solvent-release-curing, pigmented, synthetic-rubber sealant complying with AAMA 803.3 and formulated for sealing joints 3/16 inch (5 mm) or smaller in width.
   1. Products:
      a. Fuller, H. B. Company; SC-0289.

2.5 LATEX JOINT SEALANTS

A. Latex Sealant:  Comply with ASTM C 834, Type P, Grade NF.

B. Products:
   1. Sonneborn, Division of ChemRex Inc.; Sonolac.
   2. Tremco; Tremflex 834.

2.6 ACOUSTICAL JOINT SEALANTS

A. Acoustical Sealant for Exposed and Concealed Joints:  Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and the following:
1. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

2. Products:
   a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.

B. Acoustical Sealant for Concealed Joints: Manufacturer's standard, nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

1. Products:
   a. Pecora Corporation; BA-98.
   b. Tremco; Tremco Acoustical Sealant.

2.7 PREFORMED JOINT SEALANTS

A. Preformed Silicone-Sealant System: Manufacturer's standard system consisting of precured low-modulus silicone extrusion, in sizes to fit joint widths indicated, combined with a neutral-curing silicone sealant for bonding extrusions to substrates.

1. Products:
   a. Dow Corning Corporation; 123 Silicone Seal.
   b. GE Silicones; UltraSpan US1100.
   c. Tremco; Spectrem Ez Seal.

B. Preformed Foam Sealant: Manufacturer's standard preformed, precompressed, open-cell foam sealant that is manufactured from high-density urethane foam impregnated with a nondrying, water-repellent agent; is factory produced in precompressed sizes in roll or stick form to fit joint widths indicated; is coated on one side with a pressure-sensitive adhesive and covered with protective wrapping; develops a watertight and airtight seal when compressed to the degree specified by manufacturer; and complies with the following:

1. Products:
   a. EMSEAL Joint Systems, Ltd.; Emseal 25V.
   b. illbruck Sealant Systems, Inc.; Wilseal 600.
   c. Polytite Manufacturing Corporation; Polytite B.
   d. Polytite Manufacturing Corporation; Polytite Standard.
   e. Sandell Manufacturing Co., Inc.; Polyseal.

2. Properties: Permanently elastic, mildew resistant, nonmigratory, nonstaining, and compatible with joint substrates and other joint sealants.
   a. Density: Manufacturer's standard.

2.8 PREFORMED TAPE SEALANTS
A. Back-Bedding Mastic Tape Sealant: Preformed, butyl-based elastomeric tape sealant with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
   1. AAMA 804.3 tape, where indicated.
   2. AAMA 806.3 tape, for applications in which tape is subject to continuous pressure.
   3. AAMA 807.3 tape, for applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Tape Sealant: Closed-cell, PVC foam tape sealant; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:
   1. Type 1, for applications in which tape acts as the primary sealant.
   2. Type 2, for applications in which tape is used in combination with a full bead of liquid sealant.

2.9 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, type as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F (minus 32 deg C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.

D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.10 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
   a. Concrete.
   b. Masonry.
   c. Unglazed surfaces of ceramic tile.

3. Remove laitance and form-release agents from concrete.

4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
   a. Metal.
   b. Glass.
   c. Porcelain enamel.
   d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended in writing by joint-sealant manufacturer based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.

D. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

   1. Do not leave gaps between ends of sealant backings.
   2. Do not stretch, twist, puncture, or tear sealant backings.
   3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

E. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

F. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

   1. Place sealants so they directly contact and fully wet joint substrates.
   2. Completely fill recesses in each joint configuration.
   3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

G. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

   1. Remove excess sealant from surfaces adjacent to joints.
   2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
   3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
   4. Provide flush joint configuration where indicated per Figure 5B in ASTM C 1193.
   5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 5C in ASTM C 1193.
a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

H. Installation of Preformed Tapes: Install according to manufacturer's written instructions.

I. Installation of Preformed Silicone-Sealant System: Comply with the following requirements:
   1. Apply masking tape to each side of joint, outside of area to be covered by sealant system.
   2. Apply silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's written instructions and covering a bonding area of not less than 3/8 inch (10 mm). Hold edge of sealant bead 1/4 inch (6 mm) inside masking tape.
   3. Within 10 minutes of sealant application, press silicone extrusion into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate.
   4. Complete installation of sealant system in horizontal joints before installing in vertical joints. Lap vertical joints over horizontal joints. At ends of joints, cut silicone extrusion with a razor knife.

J. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, producing seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in compliance with sealant manufacturer's written instructions.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
   1. Extent of Testing: Test completed elastomeric sealant joints as follows:
      a. Perform two tests for the first 500 feet of joint length for each type of elastomeric sealant and joint substrate.
      b. Perform 1 test for each 1000 feet (300 m) of joint length thereafter or 1 test per each floor per elevation.
   2. Test Method: Test joint sealants according to ASTM C 1193, or as appropriate for type of joint-sealant application indicated.
      a. For joints with dissimilar substrates, verify adhesion to each substrate separately; do this by extending cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
   3. Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements. Record results in a field-adhesion-test log.
   4. Inspect tested joints and report on the following:
      a. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
b. Whether sealants filled joint cavities and are free of voids.
c. Whether sealant dimensions and configurations comply with specified requirements.

5. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.

6. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

   1. Joint Sealant: Multicomponent nonsag polysulfide sealant
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.
C. Joint-Sealant Application: Exterior vertical and horizontal nontraffic joints between plant-precast architectural concrete units.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

D. Joint-Sealant Application: Exterior vertical control and expansion joints in unit masonry.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

E. Joint-Sealant Application: Exterior joints in dimension stone cladding.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

F. Joint-Sealant Application: Interior and exterior sealant-pointed mortar joints in glass unit masonry assemblies.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

G. Joint-Sealant Application: Exterior joints in exterior insulation and finish systems.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

H. Joint-Sealant Application: Exterior butt joints between metal panels.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

I. Joint-Sealant Application: Exterior vertical joints between different materials listed above.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

J. Joint-Sealant Application: Exterior perimeter joints between exterior surfaces and frames of doors, windows and louvers.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.
K. Joint-Sealant Application: Exterior control and expansion joints in ceilings and other overhead surfaces.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

L. Joint-Sealant Application: other exterior joints in vertical and horizontal nontraffic surfaces.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

M. Joint-Sealant Application: Exterior control and expansion joints in horizontal traffic surfaces.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

N. Joint-Sealant Application JS-[#]: Vertical control and expansion joints on exposed interior surfaces of exterior walls.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

O. Joint-Sealant Application: Interior perimeter joints of exterior openings.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

P. Joint-Sealant Application: Interior tile expansion, control, contraction, and isolation joints in horizontal traffic surfaces.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

Q. Joint-Sealant Application: Interior joints between plumbing fixtures and adjoining walls, floors, and counters.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

R. Joint-Sealant Application: Vertical joints on exposed surfaces of interior walls and] partitions.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.
S. Joint-Sealant Application: Perimeter joints between interior wall surfaces and frames of interior doors, windows and entrances.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

T. Joint-Sealant Application: Interior control, expansion, and isolation joints in horizontal traffic surfaces of flooring and other interior joints in horizontal traffic surfaces.
   2. Joint-Sealant Color: As selected by Owner or Owner’s representative from manufacturer's full range.

END OF SECTION 07920
Dow Corning® 790 Silicone Building Sealant

Ultra-low-modulus sealant for new and remedial construction joint sealing applications

APPLICATIONS
Dow Corning® 790 Silicone Building Sealant offers outstanding unprimed adhesion to masonry and is particularly effective for sealing expansion and control joints, precast concrete panel joints, Exterior Insulation and Finish Systems (EIFS) joints, curtainwall joints, mullion joints, stone pavers, and many other construction joints. When used in accordance with Dow Corning application and testing recommendations, the sealant forms a durable, flexible, watertight bond with many common building materials, including combinations of stone, concrete, masonry, granite, marble, aluminum, painted substrates, and glass.

TYPICAL PROPERTIES
Specification Writers: Please contact your local Dow Corning Sales Application Engineer or Dow Corning Customer Service before writing specifications on this product.

<table>
<thead>
<tr>
<th>Method</th>
<th>Test</th>
<th>Unit</th>
<th>Result</th>
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<tr>
<td>ASTM C 679</td>
<td>Tack-Free Time, 50% RH</td>
<td>hours</td>
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<td>Curing Time, 50% RH, at 25°C (77°F), 3/8” depth</td>
<td>days</td>
<td>7-14</td>
<td></td>
</tr>
<tr>
<td>Full Adhesion, cured joint</td>
<td>days</td>
<td>14-21</td>
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<tr>
<td>ASTM D 2202</td>
<td>Flow, Sag, or Slump</td>
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<td>None</td>
</tr>
<tr>
<td>CTM’s (Corporate Test Methods) 98 B</td>
<td>Working Time</td>
<td>minutes</td>
<td>10-20</td>
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<tr>
<td>EPA Method 24 VOC Content¹, maximum</td>
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<td></td>
</tr>
<tr>
<td>As Cured – After 7 days at 25°C (77°F) and 50% RH</td>
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<tr>
<td>ASTM C 661</td>
<td>Durrometer Hardness, Shore A</td>
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<td>ASTM D 412</td>
<td>Tensile Strength, maximum</td>
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<tr>
<td>ASTM C 794</td>
<td>Peel Strength</td>
<td>lb/in (kg/cm)</td>
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<tr>
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<td>at 50% extension</td>
<td>psi (kg/mm²)</td>
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<td>ASTM C 719</td>
<td>Joint Movement Capabilities</td>
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<tr>
<td>ASTM C 1248</td>
<td>Staining, various substrates</td>
<td>none</td>
<td>None</td>
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¹CTMs (Corporate Test Methods) correspond to standard ASTM tests in most instances. Copies of CTMs are available upon request.
²Based on South Coast Air Quality Management District of California. Maximum VOC is listed both inclusive and exclusive of water and exempt compounds. For a VOC data sheet for a specific sealant color, please send your request to product.inquiry@dowcorning.com.

DESCRIPTION
Suitable for new construction or remedial applications, Dow Corning 790 Silicone Building Sealant provides excellent performance, even in building joints that experience extreme movement. It places a low stress on the sealant/substrate bond line to minimize failures in moving joints.
APPROVALS/ SPECIFICATIONS
This sealant meets or exceeds the requirements of:
- ASTM Specification C 920, Type S, Grade NS, Class 100/50, Use T, NT, M, G, A, and O
- Many UL wall/floor fire designs, some without a protective cover plate (see www.ul.com for current listing)
- Fire Tests of Building Construction and Materials, UL 263 (ASTM E 119)

Data from an independent test lab and Sealant, Waterproofing and Restoration Institute validation are available from Dow Corning and the SWR Institute. A complete product specification sheet for this product is available upon request.

HOW TO USE
Consult the current version of the Dow Corning Americas Technical Manual, Form No. 62-1112, (available from www.dowcorning.com/construction) for detailed information on application methods, joint design, field testing, and warranty requirements when using Dow Corning® brand sealants. Please contact your local Dow Corning Sales Application Engineer for specific advice.

HANDLING PRECAUTIONS
PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT WWW.DOWCORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

USAGE LIFE AND STORAGE
When stored at or below 32°C (90°F), Dow Corning 790 Silicone Building Sealant has a shelf life of 12 months from date of manufacture. Refer to product packaging for “Use By” date.

PACKAGING
Dow Corning 790 Silicone Building Sealant is packaged in 10.3-fl oz (305-mL) disposable cartridges that fit ordinary caulking guns, 20-fl oz (590-mL) E-Z Pak foil sausages that fit caulking guns, and also in 2.0- and 4.5-gal (7.5- and 17-L) bulk pails. It can be dispensed by many air-operated guns and most types of bulk dispensing equipment.

LIMITATIONS
Dow Corning 790 Silicone Building Sealant should not be applied:
- In structural applications.
- Below grade or to materials that outgas, which can cause bubbling in curing sealant.
- On brass or copper or other similar material that can be corroded.
- To surfaces that are continuously immersed in water.
- For use as an interior penetration firestop sealing system.
- To building materials that bleed oils, plasticizers, or solvents – materials such as impregnated wood, oil-based caulks, green or partially vulcanized rubber gaskets, or tapes or bituminous below-grade waterproofing and asphalt-impregnated fiberboard.
- In totally confined spaces because the sealant requires atmospheric moisture for cure.
- To surfaces that will be painted after application. The paint film will not stretch with the extension of the sealant and may crack and peel and most likely will not adhere to the sealant.
- To surfaces in direct or indirect contact with food.
- To wet or frost-laden surfaces.
- In applications where solvents or primers are not fully dried prior to sealant application. Uncured sealant is very sensitive to many solvents, primers, and cleaning agents; these may cause the sealant to remain uncured or tacky.

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION
To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, www.dowcorning.com, or consult your local Dow Corning Sales Application Engineer.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY
The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer’s tests to ensure that Dow Corning’s products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning’s sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment.
Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

**DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.**

**DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

A 20-year Weatherseal Limited Warranty is available. Some testing may be required. Consult your Dow Corning Sales Application Engineer for details.
Since Pecora Architectural Sealants are applied to varied substrates under diverse environmental conditions and construction situations it is recommended that substrate testing be conducted prior to application.
TECHNICAL DATA

Applicable Standards: Pecora 890NST Silicone meets or exceeds the requirements of the following industry specifications; TT-S-230C, Class A, ASTM C-920, Class 100, Type S, Grade NS, Use G.A,M.O and CGSB-19GP-9, ASTM C-1248, CAN/CGSB-19.13-M87.

Joint Design: Proper sealant dimensions are critical when installing elastomeric joint sealants. Generally, a sealant width-to-depth ratio of 2:1 is recommended. Dynamic joint conditions will require a minimum 1/4" width and 3/16" depth in order to maintain the sealant's movement capabilities. For joints greater than 1", consult Technical Services. The width of building expansion joints varies because of seasonal and daily changes in temperature. If Pecora 890NST cannot be installed when the design width is approximately halfway between the dimensional extremes, the designed joint must be at least twice the total anticipated joint movement.

Good architectural practice calls for joint design of four times the anticipated movement due to construction tolerances and material variations.

INSTALLATION

Surface Preparation: Clean all joints and glazing areas by removal of foreign matter and contaminants such as oil, dust, grease, frost, water, surface dirt, old sealants or glazing compounds and any protective coating. Porous substrates and precast concrete panels using form release agents other than polyethylene film should be cleaned by grinding, saw cutting, blast cleaning (water or sand), mechanical abrading or a combination of these methods which will provide a sound, clean and dry surface for sealant application. Dust, loose particles, etc. should be blown out of joints with oil-free compressed air or vacuum cleaned. Metal, glass and plastic surfaces should be cleaned by solvent procedure or by mechanical means. Soap or detergent and water cleaning treatments are not recommended. Cleaning of all surfaces should be done on the same day on which the sealant is applied.

CAUTION: Solvents may be toxic and/or flammable. Refer to solvent manufacturer’s instructions or Safety Data Sheets (SDS).

Priming: Pecora 890NST does not require priming on most common substrates. However, Pecora strongly suggests adhesion pretesting, either in the field or in Pecora’s laboratory on all porous substrates, particularly brick, as well as unusual building materials and other substrates where special coatings or surface treatments may impair optimum adhesion. Where primer is indicated, P-150 should be used on porous substrates and P-120 on special metal and plastic surfaces. All precast substrates require priming with P-225 primer. All EIFS substrates require priming with P-75 or P-150 primer. Contact Technical Services department for primer use on other substrates.

To assist in this determination Pecora has a list of adhesion-in-peel test results on a wide variety of substrates and building materials which is available on request from our Technical Services department.

Pecora routinely conducts project specific adhesion and compatibility tests in its laboratory on representative substrate samples. Consult Technical Services for details.

Joint Backing: Backer rod controls the depth of the sealant and allows it to be applied under pressure. Use a size that will compress 25%. Denver Foam open-cell polyurethane or reticulated (soft) polyethylene rod is recommended. Closed-cell polyethylene may be used but care must be taken not to puncture the rod which can cause outgassing or bubbling/blistering in the sealant. Open-cell polyurethane is required with non-porous substrates to allow proper curing from both sides of the sealant. In joints too shallow for backer rod, use a polyethylene bond-breaker tape to prevent three-sided adhesion.

Application: All joints should be masked to ensure a neat appearance and prevent sealant applied outside the joint confines from imparting a discoloration to the substrate.

EXAMPLES OF DIFFERENT JOINTS

<table>
<thead>
<tr>
<th>GOOD</th>
<th>POOR</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Good Joint" /></td>
<td><img src="image2" alt="Poor Joint" /></td>
</tr>
<tr>
<td>Note width-depth ratio, concave surfaces, and non-adhering back-up material.</td>
<td>Too deep, poor shape, sealant adheres to bottom side.</td>
</tr>
<tr>
<td>Bond breaker tape prevents adhesion of bottom side.</td>
<td>Bond breaker is not used.</td>
</tr>
</tbody>
</table>

Principle: The lap joint will withstand total movement in either direction equal to or less than width W.

Joint has sufficient bulk (width) to withstand shear.

To withstand 1/8" movement, existing 3/16" joint was widened to 1/2".

A. Too deep exceeds the width. B. Although shape is good, 3/16" width cannot withstand 1/8" movement.
Typical Applications for Pecora 890NST Ultra-Low Modulus Silicone Sealant

EXPANSION JOINT

Pecora 890NST

Backer Rod

Concrete

MASONRY

Backer Rod

Pecora 890NST Weatherseal

WINDOW FRAME

EXPANSION JOINT

Pecora 890NST

Natural Stone
Sealant should be applied in a continuous operation using sufficient pressure to fill the joint and make complete contact to the joint sides. Tool the sealant slightly concave using solvent or dry-tooling techniques. Contact Technical Services prior to tooling with solvent. Do not tool with soap or detergent and water solutions.

**Tool Time: (Initial Skin):** 15-25 minutes at 77° F (25° C). 50% RH. Higher temperatures and/or humidity will shorten this time.

**Clean Up:** Immediately remove all excess sealant and smears adjacent to joints with mineral spirits. For equipment cleanup, use mineral spirits. Consult manufacturer’s Safety Data Sheet for handling and safety precautions.

**Shelf Life:** Pecora 890NST has a shelf life of twelve months from date of manufacture when stored at temperatures lower than 80° F (27° C).

**Precautions:** Use with adequate ventilation or wear an appropriate NIOSH-approved respirator. Contact with uncured sealant or with vapors generated during curing may cause respiratory tract irritation. Contact with skin or eyes may cause irritation or allergic reaction. Avoid contact and wash thoroughly after handling. May be harmful if swallowed. Refer to Safety Data Sheet (SDS) for more information.

**AVAILABILITY AND COST**

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at www.pecora.com.

**WARRANTY**

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

**MAINTENANCE**

If the sealant is damaged and the bond is intact, cut out the damaged area and recaulk. No primer is necessary. If the bond has been affected, remove the sealant, clean and prepare the joint in accordance with the instructions under "INSTALLATION".

**TECHNICAL SERVICES**

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further information and assistance, please call our Technical Services department at 215-723-6051 or 800-523-6688.

**FILING SYSTEMS**

- CSI MasterFormat Designation – 07 92 00 Joint Sealants

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FOR PROFESSIONAL USE ONLY.

KEEP OUT OF THE REACH OF CHILDREN.

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DON'T STAIN YOUR REPUTATION™ - Pecora NST Non-Staining Technology