



K.B. Industries, Inc.

PROJECT SPECIFICATIONS





K.B. Industries, Inc.

SECTION 02795
Porous Surfacing with KBI Flexi™-Pave system

PART 1
GENERAL

1.00 General Provisions

Attention is directed to the Contract and General Conditions and all sections within Division 1, General Requirements, which are made a part of this section of the specifications. KBI, Inc. specifications and contract require a 50% down payment to order materials for the project. No retainage shall be held back from the balance due in the KBI, Inc. contract. The terms and conditions of the KBI, Inc. contract will supersede the general contract for construction should either of the above conditions of contract occur in conflict.

1.01 Work Included

The work in this section includes but is not limited to:

1. Supply and install single pass KBI-Flexi-Pave surfacing system.
2. Coordinate with other trades and general contractor.
3. Review for approvals, density reports provided by owner's testing agency prior to installing porous surfacing system.
4. See drawings and specifications for complete extent of work in this section.

1.02 Work Not Included

1. Base materials.
2. Testing by owner on substrate materials used to support the KBI Flexi-Pave surfacing system.
3. Repairs to substrate materials not in conformance with the contract documents.
4. Repairs to meet compaction requirements of the contract documents.
5. Security of work area for 24 hour curing period.
6. Repairs to KBI-Flexi-Pave materials damaged by others prior to curing period ending, by accident or by negligence.



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1.03 Related Work

Examine contract documents for requirements that affect work of this section.
Examine specification sections that directly relate to work of this section.

1.04 Related Work by Others

1. Section 02100, Site Preparation
2. Section 02200, Earthwork
3. Testing by owner

1.05 Quality Control

1. Installers shall be trained, approved, and certified by KBI, Inc.
2. All necessary material components and applicable overview required to install the single pass KBI-Flexi-Pave system shall be provided by the certified technicians.
3. Special Details:
 - a) KBI, Inc. single pass systems for play surfacing utilizing FP-35 and FP-45 proprietary urethane binder are designed to meet CPSC, ASTM and ADA requirements for playground impact absorbing resilient safety surfacing.
 - b) Concrete, asphalt, tile, wood, and approved metals may be acceptable “Engineered” substrates when approved for use by KBI, Inc. Compacted; natural stone, crushed stone, recycled concrete, recycled asphalt are acceptable “dynamic” substrates when approved by KBI, Inc. and meet design specifications.
 - c) A site evaluation on all substrate structural performance shall be conducted by the owner and results to be reviewed by KBI, Inc. for acceptance as an approved substrate prior to installation of the KBI-Flexi-Pave surfacing system.
 - d) KBI, Inc. will not be responsible for work provided by other parties, which is not reviewed and approved for the execution of a KBI-Flexi-Pave installation.
 - e) KBI, Inc. will not be responsible for work by others if approved third party testing and results are not provided to KBI, Inc. for review and acceptance prior to the KBI-Flexi-Pave installation.
 - f) Repair costs that correct substrate material or installation deficiencies that do not meet design specifications or KBI, Inc. minimum requirements will be borne by the owner or general contractor.
 - g) If work scheduled by KBI, Inc. and their authorized installers could not commence on time do to work by others preventing the installation, KBI,



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Inc. will re-schedule their installation date after all deficiencies are corrected by the owner or general contractor.

- h) If KBI, Inc. must re-mobilize their equipment to the work site due to corrective work being performed to bring substrate materials or access to the work area into compliance, a fee of (\$2,575.00) will be added to the base contract and the completion date shall be moved back as necessary.
- i) KBI, Inc. or its approved system installers will not be penalized in cash against their contract (back charges or liquidated damage penalties) for actions beyond their control due to weather and or freight delay's affecting the performance of the contract.
- j) KBI, Inc. or its approved system installers will not be held for delay damages caused by necessary repairs to newly installed KBI Flexi™-Pave materials damaged prior to curing.

1.06 Substantial Completion

1. The owner or authorized owners' representative and the KBI, Inc. representative will inspect all work in place for Substantial Completion status. Upon written notice to the owner or owners' authorized representative, that the KBI, Inc. installation has reached Substantial Completion, the KBI, Inc. acknowledgement form is to be signed activating the date of warranty's commencement. Both Parties shall sign the form and a copy is to be retained by KBI, Inc and the owner.
2. Upon completion of the KBI, Inc. scope of work, if re-inspection, repairs or renewal were required in the judgment of KBI, Inc. the owner or authorized representative will sign the KBI, Inc. contract completion acknowledgement form, obtain the signature of the KBI, Inc. representative to activate the date of warrantee. A copy of the signed forms shall be retained by both parties.
3. Warranty work, if required, during the warrantee period will be performed only if the balance of contract to KBI, Inc. is paid in full.
4. The work may be accepted in part or in whole if agreed to and paid for by the owner and recorded in writing, signed by both parties of the contract.

1.07 Guarantee

1. Materials and workmanship shall be warranted against installation defects for a period of one year commencing 24 hours (curing time) after the date the installation is complete. A written, dated warranty certificate will be issued by KBI, Inc. after receipt of payment in full for the specified contract work.
2. KBI, Inc. will not warrantee the substrate materials installed by others in the execution of the general contract.



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PART 2 PRODUCTS

2.0 Materials

1. All KBI-Flexi-Pave materials are to be acquired from KBI, Inc., their approved agents, or approved distributors.
2. KBI-Flexi-Pave is porous, and meets class B fire rating criteria.
3. Primer to be single component moisture cured urethane.
4. The urethane binder agent is an elastomeric, pre-polymer with minimal odor prior to fully curing.
5. The urethane binder is 100% MDI based.
6. Substrate by others is to be a minimum of four inches thick after the compaction process reaches a density value of 95% min.
7. KBI, Inc. granulated tire rubber will be a 3/8" nominal sized granule that is 99% wire free and retains the tire cording.
8. Aggregate will be 3/8" nominal size of type appropriate to the project requirements and or aesthetic design.
9. Aggregate and rubber granule color and mixed blends of color at determined ratios shall be agreed to in writing with the owner or authorized representative prior to ordering materials and commencing the work.

2.01 Product Performance

The KBI-Flexi-Pave system will have the following technical specifications:

1. Accelerated weathering 3000 hours – no change.
2. Thermal stability range of -53 degrees to 212 degrees
3. Freeze thaw at 250 cycles – no change
4. *Play surface (P2000) at 2" thick to meet ASTM 1292-99 and F355-95 criteria with FP35 or FP45 with no aggregate. The product will have a HIC rating of 1000 or less and G-Max force of 200 or less at 73 degrees F. for a 6' critical fall height.



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PART 3 EXECUTION

3.00 Evaluation

Prior to installation of KBI-Flexi-Pave, certified KBI, Inc. approved technicians will inspect the substrate visually for performance qualities. If the substrate is found to be unsatisfactory for the KBI-Flexi-Pave, Inc. installation, written and or verbal notice will be given to the owner, authorized representative and general contractor. The notice will contain the suspected defects in materials, structural performance or deviation from design specifications of the base materials. KBI, Inc. is not the structural or civil engineer and will not be held responsible for the performance and compliance of work done by others in the performance of the General Contract.

3.01 Commencing work after remedial actions by others

1. Installation will take place only after all known defects in the substrate are repaired, tested and approved by the proper authorities overseeing the project.
2. Prior to the installation of KBI Flexi™-Pave materials the owner shall have a qualified civil or soils engineering firm determine the structural properties of the proper base material and that it has been placed to a minimum of 95% compaction.
3. Following the signing of a contract with KBI, Inc. or its authorized installers, a mutual date will be scheduled for the installation and curing of the KBI Flexi™-Pave system with the owner or their authorized representative.

3.02 Conditions

1. An ambient temperature of 50 degrees F. or greater with a relative humidity reading of under 75% shall prevail during the installation and for at least 24 hours after the completion time of that day's work to allow for proper curing of the materials.
2. All materials incorporated into the KBI-Flexi-Pave system are to be protected before, during and after installation until fully cured.
3. Work will not take place when it is raining or the humidity is too high to install KBI-Flexi-Pave materials.
4. No damages will be assessed against the installing crew or KBI, Inc. due to weather conditions that prevent the proper installation of the materials.



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3.03 Delivery, Storage and Handling

1. All rubber and stone materials are to be transported in weather resistant bags protecting against adverse weather conditions.
2. The urethane will be shipped in containers that protect against water intrusion.
3. All materials are to be protected on site against adverse weather conditions. If freezing overnight temperatures are anticipated, heated storage will be provided by the owner or contractor for proper storage of the urethane binding agent.

3.04 Installation

1. Technicians performing the KBI-Flexi-Pave installation will be certified by K.B. Industries, Inc. Details of the certified technicians will be kept at K.B. Industries corporate headquarters.
2. Primer where required by contract will be applied by KBI technicians at a rate of 300 square feet per gallon by the use of a sprayer, roller, brush or mechanical device.
3. Blend only dry stone, dry rubber granules and urethane binder.
4. Trowel, power screed or roll mixture in place following KBI, Inc. approved procedures and details.
5. The layer of KBI-Flexi-Pave shall be allowed to cure with no foot, machine, load bearing equipment or vehicle traffic for a minimum of 24 hours from the end of the day's work.

3.05 Monitoring and Maintenance

1. The KBI-Flexi-Pave installer shall be responsible for the entire installation of the contract work. The installer shall monitor the curing of the materials until it has cured to insure no damage has occurred prior to acceptance of the work by the owner or authorized representative.
2. The owner, general contractor or authorized representative shall protect the new work area from traffic or loads until the product has fully cured.
3. Once KBI Flexi™-Pave is installed and fully cured, cleaning may be accomplished by use of a leaf blower, broom or hose as needed.
4. If KBI Flexi™-Pave is damaged by misuse or negligence that occurs during the warranty period or after, the owner will be required to pay for those repairs.
5. All warranty claims must be in writing to the manufacturer, KBI, Inc. to be validated and investigated for proper action.