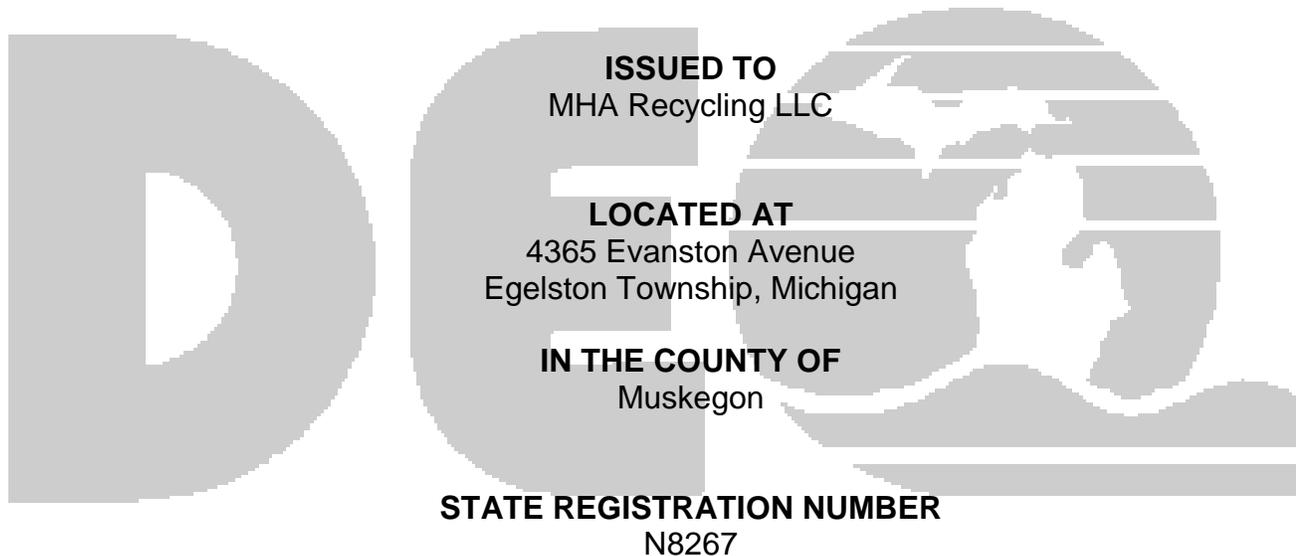


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

December 4, 2014

**PERMIT TO INSTALL
183-14**



The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: November 26, 2014	
DATE PERMIT TO INSTALL APPROVED: December 4, 2014	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	Btu	British thermal unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
CO ₂ e	Carbon Dioxide Equivalent	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	kW	Kilowatt
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO _x	Oxides of nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	PM with aerodynamic diameter ≤10 microns
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	PM with aerodynamic diameter ≤ 2.5 microns
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonably Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO ₂	Sulfur dioxide
SCR	Selective Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TAC	Toxic Air Contaminant	µg	Microgram
TEQ	Toxicity Equivalence Quotient	VOC	Volatile Organic Compound
VE	Visible Emissions	yr	Year

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EU-Process	Material sorting and separation. Grinder: Getz M30 Rubble Hog Hammermill/Crusher powered by an electric 60 HP motor. After grinding the material will be run over a cross belt magnet to remove nails and screened by an electric powered Getz horizontal shaker deck screener. Equipment includes areas and methods used to sort useable shingles from scrap material, material handling and transporting of material to storage areas. Control methods may include equipment enclosures, water sprays, drop chutes and/or pant legs for transfer points and work practices to minimize the generation of fugitive dust.	NA
EU-Truck Traffic	Truck traffic for transfer of material to and from the facility and loader traffic associated with processing equipment, storage pile handling and loading delivery trucks. All commercial truck areas and unpaved yard areas.	NA
EU-Storage	Protected area stock piles of unprocessed shingles and ground shingle product material.	NA
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

The following conditions apply to: EU-Process

DESCRIPTION: Material sorting and separation. Grinder: Getz M30 Rubble Hog Hammermill/Crusher powered by an electric 60 HP motor. After grinding the material will be run over a cross belt magnet to remove nails and screened by an electric powered Getz horizontal shaker deck screener. Equipment includes areas and methods used to sort useable shingles from scrap material, material handling and transporting of material to storage areas.

Flexible Group ID: N/A

POLLUTION CONTROL EQUIPMENT: Control methods may include equipment enclosures, water sprays, drop chutes and/or pant legs for transfer points and work practices to minimize the generation of fugitive dust.

I. EMISSION LIMITS

1. Visible emissions from the drop points and transfer point portions of EU-Process shall not exceed 10 percent opacity. **(R 336.1301)**

II. MATERIAL LIMITS

1. The permittee shall not process any regulated asbestos tailing or asbestos containing waste materials in EU-Process pursuant to the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61 Subpart M. **(40 CFR Part 61 Subpart M)**
2. The permittee shall process only shingle manufacturer by-product shingle waste material (end cuts) or clean tear-off asphalt shingle scrap material in EU-Process. The material processed in EU-Process must meet the standards specified in the following table:

Acceptable Material	Asphalt shingle manufacturer by-product (end cuts) Tear-off asphalt shingle scrap and other incidental roofing waste from private, residential homes only, no larger than four-units per structure. Processing of incidental roofing waste shall be minimized, but less than 2 percent by weight of material such as felt attached to shingles, wood, cardboard, flashing, nails, or plastic wrap may be processed. Shingles shall meet the American Society for Testing and Materials (ASTM) specifications for roofing shingles: ASTM D 225-86 (Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules) or ASTM D3462-87 (Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules)
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Prohibited Material	<p>Unacceptable materials include: household trash, paint, solvents, gasoline, anti-freeze, dead animals, asbestos, explosives, or any other material deemed hazardous or inappropriate by the AQD district supervisor.”</p> <p>The following materials shall not be processed:</p> <ol style="list-style-type: none">1. Cementitious shingles, shake shingles, and transite siding that may be suspect asbestos containing material.2. Roll roofing, built-up roofing, tile, cedar shake shingles, coal tar, rubber, slate, or metal roofing or roofing from commercial buildings3. Any type of hazardous waste (e.g., mercury containing devices such as thermostats, paint, solvents or other volatile liquids, etc.).4. Significant amounts (more than 2 percent by weight) of other debris that is not asphalt shingles (e.g., plastic, paper, glass, metal, or trash). <p>The following items shall be separated, to an extent acceptable to the AQD district supervisor, from the shingles before processing:</p> <p>Wood Metal flashings, gutters, etc Nails (best effort) Plastic wrap, buckets Paper waste Other garbage, trash or dirt</p>
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(R 336.1201(3), R 336.1205, R 336.1224, R 336.1225, R 336.1702)

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate EU-Process unless the program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix A has been implemented and is maintained. **(R 336.1371)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any portion of EU-Process unless the equipment's specified particulate matter control device is installed, maintained and operated in a satisfactory manner. **(R 336.1910)**
2. The permittee shall not operate EU-Process unless the sampling and testing plan outlined in Appendix B is implemented. **(40 CFR 61 Subpart M)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 60 days after achieving maximum production rate, but not later than 180 days after permit issuance, the permittee shall evaluate visible emissions from EU-Process, at owner's expense. The permittee must have prior approval from the AQD for visible emission observation procedures. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD within 45 days following the last date of the evaluation. **(R 336.1301)**
2. The permittee shall sample and test each type of tear-off shingle material in accordance with the sampling protocol outlined in Appendix B. The presence of asbestos shall be analyzed using the polarized light microscopy (PLM) methods [EPA Method 600/R-93/116] as per NESHAP 40 CFR Part 61 Subpart M using an accredited laboratory or personnel certified to conduct PLM, Method 600. The permittee shall document and maintain adequate records of the results of analyses and make the records available to the department upon request. **(40 CFR Part 61 Subpart M)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep daily and monthly records of the number of hours of operation of EU–Process. Further based on the hours and throughput capacity the permittee shall calculate on a monthly basis, the yearly throughput rate based upon the most recent 12-month rolling time period. The permittee shall keep records of the amount of material processed on file for a period of at least five years and make them available to the Department upon request. **(R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**
2. Each load of material accepted for recycling shall be inspected by personnel trained to visually detect possible Asbestos Containing Material. **(40 CFR 61 Subpart M)**
3. The permittee shall provide, for each load of tear-off shingles, a record of the following information:
 - a. A statement that the tear-off shingle scrap was generated at private, residential homes only, no larger than four-units per structure, and that the residential buildings are not regulated facilities under the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61 Subpart M.
 - b. Residential re-roof customer address(es) where the tear-off shingle scrap originated
 - c. A statement that the roofing waste material consists of asphalt shingles and associated roofing debris and contains no hazardous material.**(R 336.1201(3), R 336.1205, R 336.1224, R 336.1225, R 336.1702, 40 CFR Part 61 Subpart M)**
4. The permittee shall keep record of an uncertified daily visual inspection, for each operating day, of any uncovered points in EU–Process, using “yes” or “no” to indicate whether or not there are visible emissions. **(R 336.1301(1))**

VII. REPORTING

N/A

VIII. STACK/VENT RESTRICTIONS

N/A

IX. OTHER REQUIREMENTS

N/A

The following conditions apply to: EU–Truck Traffic

DESCRIPTION: Truck traffic for transfer of material to and from the facility and loader traffic associated with processing equipment, storage pile handling and loading delivery trucks. All commercial truck areas and unpaved yard areas.

Flexible Group ID: N/A

POLLUTION CONTROL EQUIPMENT: water spray for dust control

I. EMISSION LIMITS

1. Visible emissions from all wheel loaders and all truck traffic, operated in conjunction with EU–Truck Traffic, shall not exceed 5 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

II. MATERIAL LIMITS

N/A

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate EU–Truck Traffic unless the program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix A has been implemented and is maintained. **(R 336.1371, R 336.1372, Act 451 324.5521)**

IV. DESIGN/EQUIPMENT PARAMETERS

N/A

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

N/A

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

N/A

VII. REPORTING

N/A

VIII. STACK/VENT RESTRICTIONS

N/A

IX. OTHER REQUIREMENTS

N/A

The following conditions apply to: EU-Storage

DESCRIPTION: Protected area stock piles of unprocessed shingles and ground shingle product material.

Flexible Group ID: N/A

POLLUTION CONTROL EQUIPMENT: water spray for dust control

I. EMISSION LIMITS

- 1 Visible emissions from each of the material storage piles maintained under EU-Storage shall not exceed 5 percent opacity. **(R 336.1301, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

II. MATERIAL LIMITS

N/A

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate EU-Storage unless the program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix A has been implemented and is maintained. **(R 336.1371, R 336.1372, Act 451 324.5521)**
2. The height of any material storage pile shall not exceed 20 feet above ground level. **(R 336.1301)**

IV. DESIGN/EQUIPMENT PARAMETERS

N/A

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

N/A

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

N/A

VII. REPORTING

N/A

VIII. STACK/VENT RESTRICTIONS

N/A

IX. OTHER REQUIREMENTS

N/A

APPENDIX A

Fugitive Dust Control Plan

I. Site Roadways / Facility Yard

- A. The dust on the site roadways and the facility yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. Applications of dust suppressants shall be done as often as necessary to meet all applicable emission limits. A record of all watering/dust suppressant applications shall be kept on file and be made available to the AQD upon request.
- B. All paved roadways and the facility yard shall be swept as needed between applications.
- C. Any material spillage on roads shall be cleaned up immediately.

II. Grinder/Processing Equipment

The drop distance at each transfer point shall be reduced to the minimum the equipment can achieve. The transfer point from the re-circulating belt to the feed belt shall be equipped with an enclosed chute.

III. Storage Piles

- A. Stockpiling of all nonmetallic minerals shall be performed to minimize drop distance and control potential dust problems.
- B. Stockpiles shall be watered on an as needed basis in order to meet the opacity limit of 5 percent. Equipment to apply water or dust suppressant shall be available at the site or on call for use at the site within a given operating day. A record of all watering/dust suppressant applications shall be kept on file and be made available to the AQD upon request.

IV. Truck Traffic

On-site vehicles shall be loaded to prevent their contents from dropping, leaking, blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within 6 inches of the top of any side board, side panel or tailgate. Otherwise, the truck shall be tarped.

V. AQD/MDEQ Inspection

The provisions and procedures of this plan are subject to adjustment by written notification from the AQD if, following an inspection, the AQD finds the fugitive dust requirements and/or permitted emission limits are not being met.

APPENDIX B

Asbestos Testing and Site Management Plan

Shingle Source:

The company will accept only asphalt shingles from the construction or demolition of residential buildings of four units or less, and/or from shingle manufacturer's scrap. The company will not accept any roll roofing, tile, cedar, shake, coal tar, rubber, slate, built up roofing, or metal roofing. The company absolutely does not allow any material containing asbestos. The company discourages, but does allow for a minimal amount of flashing, felt, wood, cardboard and plastic wrap. These items must be placed on top of the shingles for easy removal into a dumpster at our site. If there is an excess of non-shingle materials, the company reserves the right to reject the entire load. Policy is not to accept more than 10% non-shingle material.

Acceptance and Testing:

Asphalt shingles are delivered to the site via homeowner, roofing contractor or dumpster company. These sources must disclose the source of the shingles and pass a visual inspection by the receiving agent. Any load that does not meet criteria or visual inspection of receiving agent will be refused. The company will then perform one mandatory asbestos test of one sample for every 250 tons of shingles received. If any shingles are found to contain > 1% asbestos using the PLM EPA Method 600 testing, the entire lot will be immediately quarantined until all material contained therein can be removed and disposed of to an appropriately licensed disposal site. Should this occur, the company will either open a secondary staging area for new loads coming in, or will halt receiving any new drops until said area can be cleaned.

Any material that fails to meet the standard of asbestos free will be disposed of at an appropriately licensed disposal site within a seven day period. We reserve the right to charge back any portion of disposal fee and/or handling fees associated with this contaminate to the individual or entity that has caused the clean-up procedures to be enacted.

Material Identification Procedure:

In order to properly track a sample to the corresponding load the following procedure will be followed.

Any material that is unloaded into the untested staging area will be assigned an ID number comprised of the date received followed with a sequential number for that date, beginning each new day with 1.

When asphalt shingles are delivered to the facility, a job order identified by a unique number is generated. This job order will contain the source's name, address, telephone number, job-site address, container size or volume and date of drop. Any job found to be contaminated by asbestos will be identified on this job order as well. This database is maintained for a minimum of 5 years.

Visual Screening of Materials

Each load of material shall be inspected by personnel trained to visually detect possible asbestos containing material. All yard staff and drivers are trained by the yard manager to recognize the following unacceptable materials: roll roofing, tile, cedar shake, coal tar, rubber, slate, built up roofing, and/or metal roofing.

Staging

The pre-tested staging area will be 100 ton lot size. The pre-tested staging area will contain only untested asphalt shingles.

After asphalt shingles have been certified 100 percent asbestos free, and cleaned of deleterious material, they are transported from the tested staging area and may be fed via a front end loader into the grinder or screener.