# Aggregate Glossary

## A

**Acrobatch**
An oscillating mechanical aggregate feeder usually used for feeding dry aggregates from storage bins.

**Acid-Soluble Material**
Material that is soluble in 4 mol/L Hydrochloric Acid, contained in fine aggregate.

**Adhesion Agent**
A substance used for the purpose of improving the adhesion between a bituminous binder and the aggregate.

**Aggregate**
A mixture of sand, rock, crushed stone, expanded materials, or particles that typically compose 75% of concrete by volume to improve the formation and flow of cement paste and structural performance of concrete.

**Aggregate Abrasion Value (AAV)**
Specimens of chippings passing 14mm and retained on the 20mm-14mm flake-sorting sieve, are held in resin and subjected to wear on a standard flat circular metal surface fed with high silica sand. Percentage loss in weight gives the AAV. Results range from 1 (some flints) to 15 (normally regarded as too soft for use in wearing course) LOW RESULTS BEST.

**Aggregate Crushing Value (ACV)**
14mm - 10mm chipings subjected to 400 Kn. load evenly over 10 minutes. Sieved on 2.36mm sieve. Percentage passing gives ACV. Results range 10 (very strong) to 35 (normally regarded as too weak for use in road surfacing). LOW RESULTS BEST.

**Aggregate Gradation**
The distribution of aggregate particles among various sizes, usually expressed in terms of cumulative percentages larger or smaller than each of a series of sizes (sieve openings) or the percentages between certain ranges of sizes (sieve openings).

**Aggregate Impact Value (AIV)**
As for ACV but subjected to 15 blows impact using standard apparatus. Similar results to ACV except for brittle rocks, e.g. Quartzite and hard grit stones, which can be up to 3 points higher. LOW RESULT BEST.

**Aggregate Testing**
Any of a number of tests performed to determine the physical and chemical characteristics of an aggregate. Common tests are for abrasion, absorption, specific gravity, and soundness.

**Agricultural Dust**
Sedimentary rock consisting largely of calcium carbonate and containing not more than 15% magnesium expressed as MgO and of which 100% will pass through a 5mm sieve, not less than 95% will pass through a 3.35mm and not lass than 20% will pass through a 150 micron sieve.

**Alkali-Carbonate Reaction**

The reaction between the alkalies (sodium and potassium) in portland cement binder and certain carbonate rocks, particularly calcite, dolomite and dolomitic limestones, present in some aggregates; the products of the reaction may cause abnormal expansion and cracking of concrete in service.

**Alkali-Silica Reaction**
The reaction between the alkalies (sodium and potassium) in portland cement binder and certain siliceous rocks or minerals (e.g. opaline chert, strained quartz, acidic volcanic glass) present in some aggregates; the reaction particularly takes place in warm, moist climates or environments and the products of the reaction may cause abnormal expansion and cracking of concrete in service.

**All-In Aggregate**
Aggregate consisting of a mixture of coarse and fine aggregates. It may be produced without separating into coarse and fine fractions, or by combining coarse and fine aggregate (sand).

**Armour Stone**
Large pieces of rock between 1 tonne and 15 tonnes for sea defence or river defence.

**Artificial Aggregate**
Aggregate of mineral origin resulting from an industrial process involving thermal or other modification.

**Asphalt**
A black petroleum residue, which can be anywhere from solid to semisolid at room temperature. When heated to the temperature of boiling water, it becomes able to be poured. It is used in surfacing roads (mixture of bitumen and aggregate), roofing materials, in lining the walls of water-retaining structures such as reservoirs and swimming pools, and in the manufacture of floor tiles.

**Average Least Dimension (ALD)**
The average height of the aggregate particles when they are spread as a single layer with their least dimensions vertical.

**Angular Aggregate**
Aggregate particles that possess well-defined edges formed at the intersection of roughly planar faces.

## B

**Ballast**
The mix of coarse and fine aggregates.

**Basalt**
A fine-grained basic volcanic rock, which can be used in aggregate production, similar in composition to gabbros.

**Batch Mixer**
A type of coating plant where a pre-set amount of aggregate and bitumen are mixed at one time.

**Bond**
The adhesion of cement paste to aggregate and or the rebar.

**Bedding**

Aggregate onto which slabs, blocks or pipes are laid. Usually single size for pipes and coarse sand or coarse dust for blocks and slabs.

**Bedrock**
The solid rock that underlies the soil, overburden and unconsolidated material.

**Belt Weigher**
Equipment fixed to a conveyer that weighs the material carried on the conveyer.

**Bench**
A relatively level or back sloping step, excavated or constructed on the face of a graded slope surface for safety, stability, drainage and to facilitate maintenance in the quarry (or pit).

**Berm**
A constructed barrier of overburden, topsoil or waste rock, often planted with trees, shrubs and ground cover that are used to block noise, dust and views of an aggregate operation from reaching adjacent properties.

**Building Sand**
A naturally occurring sand which can be used for mortar for laying bricks or wall rendering.

**Bin**
A large container of processed aggregate holding anything from 1 tonne to 60 tonnes.

**Binder**
An adhesive used to hold aggregate together in a coherent mass or, as in a surface dressing, to stick chippings to a road surface or to coat chippings used in surface dressing or scattered on the surface of a wearing course.

**Bitumen**
A product of the oil refinery process that is usually stored at approximately 150°C to maintain it in a liquid form. Used in asphalt and spray seal applications.

**Bit' Sand**
A mixture of natural sand and bitumen, used mainly for the bases of large steel storage tanks.

**Blast**
The breaking up of the quarry face with the use of explosives.

**Bound Material**
A mixture of fine and coarse aggregates bound together with bitumen, cement etc.

**Boulder**
Pieces of rock larger than 200mm

**Bulk Density**
The volume occupied by an aggregate. Either loose, where the aggregate is placed into a cylinder of a known volume and weighed, or compacted, where the aggregate is placed into the same cylinder and tamped down in layers and then weighed (expressed in kg/m3).

## C

**Cement-Aggregate Ratio**
The ratio, by weight or volume, of cement to aggregate in concrete.

**Clay**
Grains of rock less than 0.002mm.

**Clean Stone**
Description of single size aggregates used for sizes from 3mm to 150mm.

**Coarse Aggregate**
A general term for aggregate of such size that it is substantially retained on a sieve of specified size, commonly 4.75 mm.

**Coated Macadam**
Graded aggregate that has been coated with bituminous binder and in which a major part of the strength of the mixture is derived from interlocking of the aggregate.

**Cobble**
Pieces of rock between 60mm and 200mm

**Cold Bin/Feeder**
A small ground hopper into which aggregates are put to be fed into a coating plant. At the base of the bin is a feeder, which is sometimes calibrated to deliver accurate quantities of stone.

**Combined Aggregate Grading**
Particle size distribution of a mixture of fine and coarse aggregate.

**Concrete**
A composite material that consists essentially of a binding medium in which is embedded particles or fragments of relatively inert material filler. In portland cement concrete, the binder is a mixture of portland cement and water; the filler may be any of a wide variety of natural or artificial aggregates.

**Concrete Aggregates**
Aggregates that are used in the production of concrete products and readymix concrete.

**Cone Crusher**
A type of crusher that crushes the stone by pressure in a squeezing action. Basically a cone shape gyrates eccentrically round a fixed constraint against which the stone is crushed.

**Conveyer**
Thick rubber belting of various widths, depending on capacity required, for the movement of aggregates from one part of a process to another.

**Crushed Gravel**
The product resulting from the artificial crushing of gravel.

**Crusher-run Aggregate**
Aggregate that has been broken in a mechanical crusher and has not been subjected to any subsequent screening process.

**Crushed Stone**
Rock, boulders and cobbles that are blasted or mined and subsequently crushed and processed into aggregate.

## D

**Dense Bitumen Macadam**
Bitumen macadam in which the aggregates and filler are so graded as to form a close textured mixture, of low permeability, when spread and compacted.

**Dense Graded Mix**
An asphalt produced with aggregate that produces a continual grading. Usually low air voids as compared with open graded products.

**Deposit Characteristics**
Physical properties, sedimentary features, quality, particle gradation and composition of a deposit.

**Deposit Model**
A planning model that includes the geological feature that makes up the sand and gravel (e.g., Delta, alluvial terrace, outwash plain, drumlin), the deposit characteristic (e.g., rock types, rock characteristics), the deposit size (e.g., surface area, depth) and environmental effects of mining (e.g., high clay content).

**Deposit Size**
Surface area, thickness and volume of deposit.

**Dense-graded Aggregate**
Aggregates graded to produce low void content and maximum weight when compacted.

**Density**
The measure of weight of the aggregate per cubic metre.

**Dimension Stone**
Stone quarried from the ground in large blocks then cut, shaped and carve to specific patterns.

**Dolomite**
A mineral having a specific crystal structure and consisting of calcium carbonate and magnesium carbonate in equivalent chemical amounts (54.27 and 45.73 percent by weight, respectively); a rock containing dolomite as the principal constituent.

**Drill Rig**
The plant used for drilling the holes for blasting.

**Drilling**
The means of producing holes for charging with explosives to blast rock from the quarry face.

**Drum Mix**
A coating plant that dries the aggregate, adds the bitumen, and mixes the materials all within a long rotating drum.

**Dryer**

The rotating drum part of a batch mixing plant in which the aggregate is dried.

**Drying Shrinkage**
Aggregates under test are made into concrete prisms that are carefully measured and then subjected to a cycle of wetting and drying. Any change in length is the drying or shrinkage. LOW RESULTS BEST.

**Dust**
A commonly used term for fine hard rock quarried aggregates. After all single sizes have been screened off down to 6mm the remaining material-passing 6.3mm is dust. Some times this can be screened again to produce a fine dust and 3mm single size.

## E

**Elongation**
If an aggregate has one dimension substantially greater than the other two, it then suffers from elongation.

**Exposed Aggregate**
Surface texture where cement paste is washed away from concrete slab surface to expose durable chip-size aggregates for the riding surface.

**Extraction**
The process of removing raw material, rock or aggregate from the deposit location.

## F

**Face**
The exposed unbroken rock of the quarry after a blast has taken place.

**Feed**
The flow of aggregate into a crusher, screen house or coating plant.

**Filler**
A fine mineral powder substantially passing the 75um sieve. Derived from the dust suppression on crushing, screening, coating plants etc or by fine grinding of aggregate other similar granular material.

**Filter Layer**
The layer of fabric, sand, gravel, and/or graded rock placed between a bank revetment and soil for the purpose of prevent the soil erosion through the bank revetment while allowing natural subsurface seepage through the bank;

**Fine Aggregate**
Aggregate passing the 1/2" sieve and almost entirely passing the No. 4 sieve and predominantly retained on the No. 200 sieve. In BS882 the term is described as aggregate mainly passing a 5mm sieve.

**Fines**
A BS882 description referring to solid material passing a 75-micron sieve. Sometimes used as a common descriptive term for fine aggregate (sand).

**Fineness Modulus**
An index of fineness or coarseness of an aggregate sample. An empirical factor determined by adding total percentages of an aggregate sample retained on each of a specified series of sieves, and dividing the sum by 100.

**Flake**
Aggregate pieces that have two dimensions substantially larger than the third.

**Flakiness Index**
The calculated index of the amount of flake in each individual size, which has been combined to produce a graded material.

**Fretting**
Loss of particles of aggregate from a wearing surface associated with deteriorating adhesion or cohesion in a material.

**Fugitive Dust**
Dust which is generated by unstable, non-point sources like movement of equipment and the effects of wind and rain on stockpiles and areas stripped of vegetation. Fugitive dust is the most common cause of dust complaints at aggregate operations, as it commonly settles on cars and in homes.

## G

**Gap-graded Aggregate**
Aggregate so graded that certain intermediate sizes are substantially absent.

**Grading Aggregate**
The quantities of the various particle sizes present in a mineral aggregate, expressed as a percentage by mass of the whole. Also referred to as particle size distribution.

**Granules**
A commonly used description of aggregate smaller than 3mm.

**Gravel**
A non-coherent natural, detrital, mineral aggregate from natural disintegration of rock, consisting mainly of rounded pebbles for sub-angular rock fragments, or both. Usually occurs as part of a "sand & gravel" deposit. Fragment size between 2mm and 60mm.

**Grit**
Small size aggregate, 5mm or less.

## H

**Hardstone**
Exceptionally durable stone such as granite which is used in the top surface of roads to improve skid resistance and prevents rutting.

**Heavy-Weight Aggregate**
An aggregate of very high unit weight, such as barium, boron, or iron ore, steel shot or punchings, which forms a high density mortar of concrete when bound together with hardened cement paste.

**Honeycomb**
An area in a foundation wall where the aggregate (gravel) is visible. Honeycombs can be usually be remedied by applying a thin layer of grout or other cement product over the affected area.

**Hoggin**
A naturally occurring mixture of sand and gravel - containing sufficient clay to hold the mixture together when compacted. It is often in the form of overburden on top of good quality sand and gravel. Much used as base material in minor roads, foundations etc. on private housing developments.

**Hot Rolled Asphalt**
A road material consisting of a dense mixture of mineral matter and bituminous binder in which the mortar of fine aggregate, filler and high viscosity binder is a major factor in the performance of the compacted wearing course, basecourse or roadbase. As the strength of asphalt is derived from the stiff mortar (binder/sand/filler) the aggregate type is of little importance. In wearing course asphalt (normally 30% stone content) the greater part of the mix is sand (53%). It can be used at all layers in the road construction, i.e. roadbase, basecourse, wearing course. Normally 60% stone content is used for roadbase and basecourse and a 30% stone content for wearing course. Much asphalt wearing course now has designed binder content and has to meet a stability (strength) requirement dependent on the traffic density in terms of commercial vehicles. Such a requirement often necessitates the use of blended sand/crushed rock fine aggregate. Rock fines are also permitted by BS594. Because asphalt uses a high percentage of stiff bitumen it is expensive to produce (bitumen cost and aggregate heating costs). In consequence it is only used on heavily trafficked trunk roads and motorways where its cost can be justified. Normally produced on a semi-continuous or "asphalt" plant. Coated chippings are usually embedded into the surface of low coarse aggregate content hot asphalt to improve the surface texture and skid resistance. In consequence the chippings used should be of a high PSV and low abrasion value with good shape and size (normally 20mm size).

## I

**Impact Crusher**
Type of crusher in which the breaking process is by impact action, since the rock is not crushed but rather fragmented by kinetic energy imported into the feed system.

## J

**Jaw Crusher**
The crushing action resulting from the simple reciprocating motion takes place only during the forward stroke of the swinging jaw i.e. during half the time of operation of the crusher. The stone is crushed by pressure in a squeezing action.

## L

**Lake Asphalt**
A naturally occurring mixture of bitumen and finely divided mineral matter which is found in well-defined surface deposits.

**Lightweight Aggregate**
Aggregate of low density, such as (a) expanded or sintered clay, shale, slate, diatomaceous shale, perlite, vermiculite, or slag; (b) natural pumice, scoria, volcanic cinders, tuff, and diatomite; (c) sintered fly ash or industrial cinders, used to produce lightweight concrete.

**Limestone**
A sedimentary rock, consisting predominantly of calcium carbonate.

**Lithology**
The physical character and composition of a sediment or rock, generally defined by its mineral composition.

**Lock Down Seal**
A reseal to prevent further loss of aggregate if original seal is experiencing aggregate loss. Normally 5mm or 7mm aggregate applied. Also referred to as Pin Down Seal.

## M

**Macadam**
Refers to a pavement type generally consisting of large single size aggregate with a surface layer of smaller material with or without binder to lock the surface together. Can be either a bitumen based or water based Macadam Pavement.

**Macrotexture**
Description of the road surface produced by different sizes or types of aggregate.

**Magnesium Sulphate Soundness**
This test method is for determining the soundness of aggregates by subjecting the aggregate to cycles of immersion in a saturated solution of magnesium sulphate followed by oven drying.

**Magnetite**
An aggregate used in heavy weight concrete, consisting primarily of ferrous metaferrite (Fe304). A black magnetic iron ore with specific gravity of approximately 5.2 and a Mohs hardness of about 6.

**Marine Aggregates**
Sand or gravel dredged from the sea bed for use in construction.

**Matrix**
This is the internal physical components of a coated or dry stone material.

**Maximum Size Aggregate**
Aggregate whose largest particle size is present in sufficient quantity to affect the physical properties of concrete; generally designated by the sieve size on which the maximum amount permitted to be retained is 5 or 10 percent by weight.

**Mesh**
The number of openings (including fractions thereof) per unit of length in either a screen or sieve in which the openings are 6 mm or less.

**Methylene Chloride**
Non-inflammable, volatile solvent used for washing bitumen from coated materials. A very good organic solvent not soluble in water.  the solvent used for washing bitumen from coated material so the aggregate can be graded and bitumen content calculated.

**Micron**

A micron is one thousandth of a millimetre.

**Microsilica**
A fine powder additive to fresh concrete giving great increases in initial strengths and resistance to abrasion. Microsilica mixes allow use of a structure considerably faster than usual, giving a typical 30N/mm2 strength in a matter of 36-48 hours rather than the usual 28 days. Ideal for use in harsh environments such as coastal protection.

**Microtexture**
This is the description of the actual surface of exposed aggregate on the road surface.

**Mineral Reserves**
Geological deposits which are subject to planning permissions for extraction.

**Mineral Resources**
Geological deposits, similar to those forming reserves, where economically workable minerals may prove to be present but remain as areas without planning permission.

**Mining Face**
The exposed vertical or near vertical portion of soil or rock that results from mining activity. Shape is generally determined by the reach of loading equipment working on the face.

**Mobile Plant**
Equipment within the quarry which can be moved about, e.g. Loading Shovels, Compressors, Dumpers and Drill Rigs.

**Mortar**
A mix of sand, cement and water which is used to bind together bricks and building stones.

## N

**Natural Aggregate**
Aggregate from mineral resources which has been subjected to nothing more than mechanical processing.

**Natural Sand**
Sand resulting from natural disintegration and abrasion of rock.

**Normal Weight Aggregate**
Aggregate of mineral origin having a particle density not less than 2000 kg/m3.

**Nominal Maximum Size Aggregate**
The smallest sieve opening through which the entire amount of the aggregate is permitted to pass; sometimes referred to as "maximum size" (of aggregate).

**Nuclear Density Meter**
An instrument for the non-destructive determination of the density and moisture content of material using a radioactive source for its operation.

## O

**Overburden**

Unconsolidated material overlying the rock or sand and gravel to be extracted, excluding the economically valuable sand and gravel layers. Overburden is typically poorer quality material and must be removed to extract economically valuable horizons.

**Oven Dry Density**
Aggregate is dried in an oven then weighed. This weight is then used to calculate the density.

## P

**Particle Size**
The effective diameter of a particle measured by sedimentation, sieving, or micrometric methods.

**Particle-size Distribution**
Particle distribution of granular materials among various sizes, for aggregates normally designated as gradation. It is usually expressed in terms of cumulative percentages smaller or larger than each of a series of sieve openings or percentages between certain ranges of sieve openings.

**Pecker**
Hydraulic ram, which is used to break large pieces of rock down to a size, which can be crushed.

**Pea Beach**
A commonly used term for 20mm single size gravel, particularly from marine sources where material is naturally more rounded.

**Pea Gravel**
A commonly used term for 10mm or 20mm single size gravels, particularly from marine sources where material is naturally more rounded.

**Pea Shingle**
A commonly used term for 10mm single size gravel, particularly from marine sources where material is naturally more rounded.

**Percent Fines**
Amount, expressed as a percentage, of material in aggregate finer than a given sieve, usually the No. 200 (75 m m) sieve; also, the amount of fine aggregate in a concrete mixture expressed as a percent by absolute volume of the total amount of aggregate.

**Permeability**
This is the ability of a material to let water pass through it and drain away.

**Permeable Subbase**
Layer consisting of crushed aggregates with a reduced amount of fines to promote drainage and stabilized with Portland cement or bituminous cement.

**Petrographic**
A procedure to determine the composition of coarse and fine aggregate in geological terms.

**Pit**
An open shallow surface working, from which sand and gravel is excavated from its natural bed.

**Pit Run**
Unscreened alluvial aggregates as extracted from a pit.

**Plant Mix**
A mixture of aggregate and asphalt cement or liquid asphalt, prepared in a central or traveling mechanical mixer.

**Pipe Bedding**
Aggregate used for laying pipes into a trench to provide equal support along their length. Different sizes are used for different sized pipes.

**Plasticity, Plastic Index**
This is a measure of the amount of clay in a drystone material. The plastic index is a ratio of the Plastic Limit and the Liquid Limit.

**Polished Aggregate Friction Value (PAFV)**
A measure, on a scale of 0 to 100, of the resistance of an aggregate to polishing under the action of traffic as determined in standard laboratory tests.

**Polished Stone Value (PSV)**
A measure of an aggregate's resistance to the polishing action of vehicle tyres. (Limestone - 40/45, Granite - 50/65, Gritstone - 55/70+).

**Porosity**
The percentage of open spaces between pieces of gravel cobble etc.

**Precoating**
The coating of aggregate with a liquid to improve adhesion with the bituminous binder and the aggregate.

**Pre-Coated Chippings**
Normally 20mm or 14mm high PSV aggregate with 1.5% 50 Pen coating of bitumen, which is then allowed to cool, then broken up so they can be spread onto asphalt and rolled in when the material is hot. It provides the skid resistance and texture depth.

**Pre-placed aggregate**
Coarse aggregate placed in a form, with Portland cement grout injected later.

**Pressure Filter**
Apparatus used to force the methylene chloride bitumen liquor from the aggregate filler through a filter paper under pressure.

**Primary Crusher**
The first crushing process after material has been won from the ground.

**Primer Seal**
An application of a primerbinder with a fine cover aggregate to a prepared base to provide penetration of the surface and retain a light cover of aggregate. It is used as a preliminary treatment to a more permanent bituminous surfacing. It is intended to carry traffic for a longer period than a prime.

**Procter Test**
a method to determine the maximum density that can be achieved through wetting and packing for a given aggregate.

**Proportioning**
Selection of proportions of ingredients for mortar or concrete to make the most economical use of available materials to produce mortar or concrete of the required properties.

**Pugmill**
A stationary mechanical mixer for blending cement and aggregate.

**Procter Test**
a method to determine the maximum density that can be achieved through wetting and packing for a given aggregate.

**R**

**Railway Ballast**
50mm single sized aggregate to be laid as ballast under permanent way for construction and maintenance of rail track bed. The aggregate must conform to a grading requirement and certain specifications for physical properties, the most significant of which is the Wet Attrition Test. The current specification details a Wet Attrition Value of 6 maximum for high speed tracks and this excludes most limestone.

**Reactive aggregate**
Aggregate containing substances certain silica or carbonate compounds that are capable of reacting chemically with the products of solution or hydration of the Portland cement (alkalis generally) in concrete or mortar, under ordinary conditions of exposure, resulting in harmful expansion, cracking, or staining.

**Recycled aggregates**
Reprocessing of waste concrete and asphalt pavements into useable aggregates.

**Rehabilitation**
The creation of landforms, land productivity and land uses that are compatible with existing land uses in the surrounding area.

**Relative Density**
Samples soaked for 24 hours, weighed in distilled water, surface dried, and weighed and then over dried and weighed. Relative density range from 2.5 - 3.0.

**Restoration**
The reformation of a quarry site or sand and gravel site back to agricultural use or leisure activities.

**Revegetation**
The re-establishment of self-sustaining plant cover on a disturbed site.

**Rip Rap**
Loose stone placed along a surface to prevent erosion, scour, or sloughing of a structure or surface such as breakwater, embankment, mountain trail, etc.

**Roadbase**
A term used to describe crushed rock or natural gravel used in road construction.

**Rock Pocket**
A portion of hardened concrete consisting of a concentration of coarse aggregate that is deficient in mortar; caused by separation during placement or insufficient consolidation, or both; see honeycomb.

**Round Rock Aggregate**
Natural aggregate from either a fluvial or glaciofluvial deposit and comprised primarily of rounded particles created by mechanical erosion.

**Run Of Quarry Material**
Stone blasted down from the quarry face but untreated in any way. Maximum size approximately 1m3. Sometimes sold for fill, dams, break-waters, sea defence etc.

## S

**Saturated Surface Dry Density (SSD)**
The density calculated using the weight of the aggregate in a saturated surface dry state.

**Sand**
Unconsolidated materials that are primarily composed of coarse, medium and fine mineral particles 4.76 mm (#4 sieve) to 0.074 mm (#200 sieve) in diameter.

**Scalpings**
Material removed to clean the run of quarry product either before or after the primary crusher - normally before. Consists of clay, muck etc. and the small flat particles from the blasted rock. Sized at either 75, 50 or 40mm down dependent on the cleanliness of the quarry and/or time of year. This is generally a saleable material as a good class fill for minor roads, foundations etc. Often slightly more rock than necessary is left in to upgrade the product and make it saleable. In some instances price is so good as to make it uneconomic to attempt to remove the rock but this is very dependent on the quantity of material "scalped". Occasionally will meet the grading specification for Type 2 GSB with no further treatment.

**Secondary Aggregates**
The waste products of other industries which can be used as a substitute for natural aggregates. For example incinerator bottom ash, crushed glass, china clay waste and slag.

**Secondary Crusher**
This crusher is usually for re-crushing the primary crusher run smaller or rejects from the primary crusher run.

**Screen**
Large vibrating sheet, or mat, of woven wire or polypropylene, with specific size holes through which aggregates fall through, and are collected.

**Screened Aggregate**
Sand and gravel or crushed rock which has been separated by screens into various sizes. The separated sizes will usually differ dependent on whether it is a sand and gravel pit or a crushed rock plant. Sand and gravel usually produced to meet the requirements of BS882 (Aggregates from Natural Sources for Concrete) either as graded aggregates (40-5, 20-5, 14-5mm) or single sized (40, 20, 14, 10, 5mm). 3 fine aggregate gradings (C, M & F). Crushed rock produced in sizes to meet the requirements of BS63 (Road Aggregates) which are 50, 40, 28, 20, 14, 10, 6.3, 3mm and 3mm to

dust.

**Sediment**
The very fine material within washing water and storm water runoff, originating from natural, mechanical and human disturbances. Sediment particles originate from the weathering and erosion of rocks or unconsolidated deposits and are transported by, suspended in, or deposited by water or air. Composed of clay, silt and sand.

**Separation**
The tendency of coarse aggregate to separate from the concrete and accumulate at one side as concrete passes from the unconfined ends of chutes, conveyor belts, or similar arrangements.

**Shell Content**
Content of shell particles in coarse aggregate passing a 10mm sieve and retained on a 5mm sieve.

**Shock load**
The impact load of material such as aggregate or concrete as it is released or dumped during placement.

**Silt**
Grains of rock between 0.002mm and 0.06mm

**Silt Ponds/Lagoons**
The water used for washing and processing sand and gravel, ends up in ponds where the silt falls out and settles.

**Single Size Aggregate**
An aggregate having a major proportion of particles lying between narrow size limits.

**Slurry Seal**
A road surface treatment involving the application of a mixture of fine aggregate (5mm or 7mm) and emulsion in the form of a slurry over an existing pavement.

**Surface moisture**
Free moisture retained on the surfaces of aggregate particles that becomes part of the mixing water in the concrete mix.

**Soil**
The unconsolidated material on the immediate surface of the land that serves as a natural medium for the growth of plants.

**Stockpile**
Storage of an aggregate product in a large mound for later use, sale or disposal.

**Stripping**
(a) The displacement of binder from the surface of the aggregate, usually by the action of water or the combined action of water and traffic. (b) The loss of aggregate from surface dressing

## T

**Toast Rack**
A series of large concrete bays which different sizes of aggregate are stored.

## U

**Unıformity Coefficient**
Test to determine relation of sieve size at which 60% of aggregate passes against the sieve size at which 10% passes. The result is expressed as a number; the higher the number the more blended the coarse and fine elements of the material. Commonly used in the DTp 600 series specifications for Earthworks, to determine suitability of material for various fills and back fills.

## V

**Vermiculite**
An aggregate somewhat similar to perlite that is used as an aggregate in lightweight roof decks and deck fills. It is formed from mica, a hydrous silicate with the ability of expanding on heating to form lightweight material with insulation quality. Used as bulk insulation and also as aggregate in insulating and acoustical plaster and in insulating concrete.

## W

**Washed Concrete Sand**
A commonly used term for BS882 fine aggregate sand, i.e. material generally passing a 5mm sieve. This can be further defined by grading into Coarse, Medium or Fine, depending upon the material's natural composition and percentage of retention of particles on the 2.36mm sieve.

**Water Absorption**
The ability of an aggregate to absorb water 0.1 – 2% for normal road aggregates.

**Wet Mix Macadam**
Coarse and fine crushed rock or slag blended to met a grading requirement. Binding medium is water. Grading limits and moisture content (optimum +/- 0.5%) are tight, and there is a flakiness index requirement of 35 max. on the coarse aggregate.