

VERMICULITE

TECHNICAL DATA SHEET

MEDIUM GRADE

V993

INTRODUCTION

Exfoliated **VERMICULITE** Grade V3 medium is an ultra-lightweight aggregate with a nominal particle size of 2.0-5.0 mm.

SOURCE

The source of the mineral for the exfoliation of Vermiculite is a naturally occurring soft micaceous ore. This is mined and classified into grades - each having a specified range of particle sizes.

MANUFACTURE

Exfoliation of Crude Vermiculite is achieved by passing the ore through a furnace chamber at an elevated temperature. The residence period being sufficient to ensure complete exfoliation.

SUITABLE APPLICATIONS

Insulated Lightweight Concrete, Horticultural Applications, Absorbent carrier, Packaging, Fire Base Embers, Pipe and Duct Insulation, Loose Pour Aggregate, Slow Release Agent, Perfumes, Backfill for Fire Backs and Boilers.

CHEMICAL PROPERTIES

VERMICULITE Grade V3 is an Aluminium Iron Silicate. A typical composition of this is:-

SILICA	(as SiO ₂)	37-40%
MAGNESIUM	(as MgO)	21-29%
ALUMINUM	(as Al ₂ O ₃)	6-10%
IRON	(as Fe ₂ O ₃)	4- 8%
POTASSIUM	(as K ₂ O)	3- 6%
WATER	(as H ₂ O)	8-10%
CALCIUM	(as CaO)	1- 4%
CARBON	(as CO ₂)	1- 2%
TITANIUM	(as TiO ₂)	0.5- 1%
FLUORIDE	(as F)	0.1-0.75%
CHROMIC OXIDE	(as Cr ₂ O ₃)	0.05-0.15%
PHOSPHORUS PENTOXIDE	(as P ₂ O ₅)	0.01-0.90%

pH 7-10 but owing to the presence of associated carbonate rock impurities the reaction is normally alkaline.

Organic Matter Nil

cont/...

PHYSICAL PROPERTIES

The bulk density of exfoliated **VERMICULITE** Grade V3 is 70-90 kg/m at the bagging head. However, 10-15% increase in density should be allowed for in normal storage, handling and transport.

Sintering Temperature	1200-1260 Deg C
Melting Point	1330 Deg C
Specific Heat	1.08 KJ/KGK
Thermal Conductivity at normal atmospheric temp	K = 0.062-0.065W/ M C

Physical Structure - golden brown in colour in plate-like layers (concertina appearance).

Grading Specification - % by weight passing

4.75	90 - 100
3.36	70 - 90
2.36	35 - 60
1.20	5 - 20
Bulk Density	70 - 85 KG/M3

PACKAGING

VERMICULITE Grade V3 Medium is normally supplied in plastic sacks containing 100 Litres (approximately 3.5ft). Alternative packaging is available to order.

HEALTH AND SAFETY

Exfoliated **VERMICULITE** Grade V3 Medium is a heat processed, inorganic material and since no chemical changes occur it is considered non-reportable. It is also fibre-free, completely non-irritant, an inert incombustible substance, non-abrasive, rot proof, odourless, clean to handle and without the slightest danger to face or hands. However as with all fine materials the inhalation of dust should be avoided. See Material Data Safety Sheets V928A.