



The MODERN METHOD of Preserving the Surface of Drives and Paths

COLAS Construction will provide a surface capable of withstanding the wear and tear of modern traffic, but in order to ensure the best possible results *special attention should be paid to the existing surface before COLAS is applied.*

The following Preparation Work may be necessary to bring the Drives or Paths into a suitable condition for receiving a COLAS Treatment.

Rain water is usually carried away by soakage from the surface of ordinary gravel drives and paths, but as soon as the surface is properly treated with COLAS it is rendered waterproof and it is therefore necessary to provide ways and means for taking the surface rain water to suitable trenches, catchpits, etc., whence the water can drain away easily.

In cases where any difficulty presents itself in getting the water away to any desired point, then the free advice of our local Representatives should be sought.

Weeds invariably cause a considerable amount of trouble on drives and footpaths, even if they are covered with a thick layer of tarmacadam and, therefore, the necessity for exterminating the weeds before COLAS is applied must not be under-estimated.

The surface should first be thoroughly weeded, then treated with a suitable weed-killer.

There are two types of surface to consider under this heading, viz., ordinary gravel which has not been previously treated and tarmacadam, tar or bitumen treated surfaces. Taking the case of an ordinary gravel surface, humps should be trimmed down to a level that corresponds to the desired shape of the drive or path and this loose material used for filling the potholes. A further quantity of stone of suitable size varying with the depth of the potholes, should be put in and compacted by using water and ramming to the level of the surrounding surface. After this work has been completed and the whole surface swept clean, it is ready for surface dressing with COLAS.

The procedure when repairing potholes in a surface that has been previously treated is rather different. As above, the humps should be trimmed down and loose material removed. All potholes should then be swept clean of mud, dust and loose material and a liberal coat of COLAS given to the interior. Sufficient clean stone of a suitable size, varying with the depth of the potholes, should be put in and rammed until thoroughly compacted to the level of the surrounding surface; COLAS is now poured in to coat all the stone and covered with a light coating of small chippings or coarse sand and again rammed to the level of the surrounding surface.

The best results are obtained when 1 in.-1½ in. stone is used for potholes 2 in. to 3 in. deep, and ¾ in. stone for potholes from 1 in. to 2 in. deep. Slight depressions should be made

up with ½ in.-¾ in. chippings. On no account should potholes be made up with sand.

When the whole of the surface has been regulated to a uniform shape it should be thoroughly brushed clean of all loose material, dust or mud, and then watered and thoroughly rolled. Should the surface be sufficiently consolidated to require no further rolling before applying COLAS, it is advisable to dampen it down lightly with water, especially when ash or clinker surfaces are to be treated.

It is advisable to make doubly sure that the foundations at these points are sufficiently strong to withstand the impact of car wheels. It is also advisable to see that a stronger wearing surface is provided for these sections of the drive. We advise that the existing surface should be loosened and regulated to the desired shape* and over it spread a single layer of 1½ in.-¾ in.

stone, a ton covering about 30 square yards. The newly-spread stone should then be well consolidated, and a light covering of sand at 200-250 square yards per ton scattered evenly over the surface and lightly swept into the interstices. COLAS should then be applied at ¾ gallon to the square yard and the treated surface covered with ¾ in. clean stone chippings or shingle at the approximate rate of 80 square yards to the ton of chippings. This should be immediately well rolled and left for its surface treatment until the whole of the drive is treated in one continuous operation.

* Wherever possible curves and sharp bends should also be super-elevated, that is to say, *banked* to counteract the abrasive strain put on the surface by the car wheels in turning. Such a precaution makes driving much safer, especially in wet weather, while the extra cost of the work is very small indeed.

Except where otherwise stated in our specifications, we

recommend the use of a COLAS Baffle which is made to fit the ordinary 3-gallon watering can. This Baffle enables one to pour the COLAS over a width of 12 in.-18 in. in a uniform layer. It is often necessary to broom the COLAS out to a thinner layer than is possible to obtain with the can and baffle, and so we supply a special wide broom for this purpose, but it is also possible to obtain good results with cheap fibre brooms.

COLAS Baffle Plates and COLAS Brooms can be obtained from our Agents or direct from COLAS HOUSE, Buckingham Gate, London, S.W. 1, the prices being as follows:—

COLAS Baffle Plates	2/6
COLAS Brooms	5/-
Carriage paid.	

Tools, etc., can be quite easily cleaned after use with petrol, kerosene, benzine or paraffin. Stone work that has been splashed with COLAS can be cleaned with a water-soaked rag, provided the COLAS has not had time to set. If set, the surface should be scraped clean with a knife.

Watering cans employed for COLAS work may be used for ordinary watering purposes afterwards with perfect safety, because COLAS is guaranteed non-innocuous to fish and vegetable life.

N.B.—Do not spread the COLAS over a greater area than can be covered with the stone chippings and rolled before the COLAS sets.

Rolling should be carried out carefully and systematically at each stage of the work to ensure satisfactory results.

We should especially emphasise the necessity of thoroughly rolling in the final covering of stone chippings immediately they have been spread on the treated surface.

This will ensure the maximum number of chippings being held and consequently provide the best wearing surface.

It is also very advantageous to give the whole surface another thorough rolling on the morning following the completion of the work, and a little rolling every day for a week will be well worth while in assisting the improvement in the general appearance of the job.

The colour of the stone chippings, shingle or fine gravel used for covering the final coat or surface dressing of COLAS directly determines the colour of the finished surface. Should, however, the COLAS be seen between the chippings at the time of finishing the work, and it is desired to eliminate any trace of the black bitumen, then a small quantity of sand or stone dust may be lightly spread over the treated surface, which should be again rolled.

COLAS can only hold a certain number of chippings, so that when this number has been reached any surplus chippings should be swept off and used for further work if required. The surplus chippings should not be swept off for two or three weeks after the work has been completed.

The rain that drips from trees on to any drive or path surface is very detrimental and we advise, therefore, the application of an extra coat of COLAS and stone chippings where the surface is exposed to these continual drippings.

It is very important to ensure that any stone, gravel or sand used for COLAS construction or surfacing work must be perfectly clean and free from loamy material or fine dust. Should any difficulty be experienced in obtaining any particular material, we shall be pleased to make enquiries on our customer's behalf.

Boiler ashes can be used for making solid garden paths if two heavy coats of COLAS are applied.

12. *Boiler Ash Paths.* For work of this nature it is essential to see that the surface is thoroughly watered before COLAS is applied. See Specification on page 11.

Although COLAS can be applied in almost any weather it is not advisable to put our material down while there is frost in the ground. A damp surface undoubtedly gives the best results, except in the case of a smooth asphalt surface which should be dry, but COLAS should not be applied if the surface is waterlogged. It is hardly necessary to add that we do not advise the application of COLAS during heavy rain, nor when there is any likelihood of a thunderstorm immediately after the work is finished.

- When there is the least doubt as to the best method of treatment, we are fully prepared to send down a
14. *Service.* Representative free of charge to give expert advice.

We are prepared to submit free estimates for re-surfacing drives and paths by contract. This means
15. *Estimates.* that we supply all labour to apply the COLAS, spread the stone chippings and other larger material, if required, and also provide a suitable roller. By having the whole work carried out by contract, a first-class result is absolutely assured in every case.

A path or drive in fair to good condition can be protected with COLAS for approximately 1s. 6d. per square yard, the price varying with the area, cost of local stone, condition of existing surface, etc.

Specification for Ordinary Gravel Drives. A Naturally Loose Surface.

In many cases, drives that have never been treated before with any waterproofing and binding material are of a loose nature and irregular shape, owing to the formation of potholes and humps.

The method of treatment entirely depends upon the nature of the loose material, but in any case the whole of the surface should be uniformly loosened to a depth of about 1 in. and regulated to required levels. If the material is sand, or of a sandy nature, then a layer of 1½ in.–¾ in. stone should be spread over the surface at about 30 square yards to the ton, watered and consolidated by rolling before the COLAS is applied.

On the other hand, if there is a very small percentage of sand in the surface, which consists practically entirely of hard stone, then a quantity of sand should be scattered over the surface and washed down into the voids between the stones with water and the whole thoroughly consolidated. It may be necessary to build up such a surface with new stones if there are a large number of potholes and depressions, but before spreading the new material, it would be necessary first to fill all potholes with clean stone and then put down a layer of binding sand about ½ in.–¾ in. thick. The spreading and consolidation of the layer of new stone should be carried out in accordance with the specification set out in paragraph 5, page 5.

When the surface has been thoroughly consolidated, the COLAS should be applied at the rate of
Applying the COLAS. ½-gallon per square yard from an ordinary 3-gallon pouring can fitted with a COLAS Baffle Plate. The dressing should then be evenly covered with ½ in. stone chippings or clean, sharp ½ in.

shingle at the rate of 80 square yards to the ton and the whole well rolled. Then a further $\frac{1}{2}$ gallon of COLAS per square yard should be applied, covered with $\frac{1}{2}$ in. stone chippings and well rolled as before.

After the whole drive has been completed and the COLAS thoroughly set, or after an interval of at least two days, preferably longer, a further light coat of COLAS should be applied at the rate of $\frac{1}{3}$ to $\frac{1}{2}$ -gallon per square yard and covered evenly with $\frac{3}{4}$ in. clean shingle or stone chippings at the rate of 120 square yards to the ton. The surface should then be rolled thoroughly, and again rolled the following day.

Specification for Ordinary Gravel Drives.

A Firmly Consolidated Surface.

The surface of drives originally constructed with good quality stone become in time firmly consolidated and are ideal for surface dressing with COLAS, but it is essential to give detailed attention to the potholes, humps, etc., that influence the shape of the road, in accordance with the method set out in the Introduction.

After any necessary preparation work has been carried out, COLAS should be applied from a bucket and spread gently with a drawing motion by means of a broom, the area covered per gallon being from two to three square yards.

Applying the COLAS. If the surface tends to be rough, we recommend the use of an ordinary watering can fitted with a COLAS Baffle Plate (see page 4, paragraph 6) for applying the COLAS. *Before the COLAS has had time to set,* clean shingle or $\frac{3}{4}$ in. stone chippings should be spread evenly at the rate of 120 square yards per ton, and the whole well rolled.

If the drive has never been previously treated with any form of binder, then we strongly recommend the application of a

second coat of COLAS in the Autumn of the same year. If this second coat is applied, no further attention whatever will be necessary for a considerable time and a surface is provided that will be capable of standing up to continual hard wear and severe weather.

Specification for the Construction of New Paths with COLAS.

In carrying out the preparation work, the drainage should be given the same consideration as indicated in the Introduction.

Excavate to about 4 in., form the foundation of 3 in. broken brick, large clinkers or other suitable hard material, filling the interstices with sand or ashes, well water and roll. A single stone thickness of $\frac{3}{4}$ in. clean stone chippings or sharp gravel should then be spread at the rate of about 30 square yards to the ton, and again well watered and rolled until thoroughly consolidated. In the event of the foundation being formed on clay, it is advisable to put down an inch at least of ashes over the foundation before super-imposing the $\frac{3}{4}$ in. stone chippings. This will prevent the clay working through to the surface.

COLAS should then be applied from an ordinary 3-gallon pouring can fitted with a COLAS Baffle Plate (see page 4, paragraph 6) at the rate of $\frac{1}{2}$ - $\frac{3}{4}$ gallon per square yard. The dressing should then be evenly covered with

Applying the COLAS. $\frac{3}{4}$ in. stone chippings or clean sharp $\frac{3}{4}$ in. shingle, one ton or cubic yard covering approximately 80 square yards of surface, and the whole well rolled. On the following day a further coat of COLAS should be applied at the rate of $\frac{1}{4}$ to $\frac{1}{2}$ gallon per square yard and covered evenly with $\frac{1}{2}$ in. to dust stone chippings or clean, coarse sand—one ton covering approximately 200 square yards of surface—thoroughly rolled in.

Specification for Preserving the Surface of Gravel Paths with COLAS.

A securely bound durable path of pleasant appearance will be obtained by following these instructions carefully.

Preparation. See Introduction.

COLAS should be applied from a bucket and spread gently with a drawing motion by means of a broom, the area covered per gallon being from two to three square yards. If the surface tends to be rough, we strongly advise application from an ordinary garden watering can fitted with a special COLAS Baffle Plate (see page 4, paragraph 6).

Before the COLAS has had time to set, a quantity of clean, fine gravel, $\frac{1}{2}$ in.- $\frac{3}{4}$ in. chippings, or clean, coarse sand, should be spread—one ton of this fine material covering approximately 150 square yards—and the whole well rolled.

Specification for Surfacing Tarmacadam Drives and Paths with COLAS.

COLAS is ideal for this work. A dressing not only prolongs the life of the surface very considerably, but also prevents any tendency to "bleed" or corrugate in hot weather. By applying COLAS to Tarmacadam Drives and Paths and covering the dressing with shingle or other stone chippings, a surface identical in every respect to a gravel drive or path is obtained.

Any potholes should be attended to by the method set out on page 2, paragraph 3. Special care and attention should be given to the cleaning of the tarmacadam surface before applying the COLAS. If the surface consists of new

Tarmacadam and is at all open, it will be an advantage to sprinkle sand over the surface and brush well into the interstices before applying the COLAS, care being taken to see that the sand is not left caked on the surface.

COLAS should now be applied from a bucket or 3-gallon pouring can fitted with a COLAS Baffle (see page 4, paragraph 6) and spread gently with a drawing motion by means of a broom, the area covered per gallon being from 3 to 4 square yards. Before the COLAS has had time to set, a quantity of $\frac{3}{4}$ in.- $\frac{1}{2}$ in. clean gravel or stone chippings in the case of drives and $\frac{1}{2}$ in.- $\frac{3}{4}$ in. chippings or clean, coarse sand in the case of paths, should be evenly spread and the whole well rolled.

Applying the COLAS.

Specification for Providing Ash or Clinker Paths with Clean Durable Surfaces.

Kitchen garden paths, which are usually composed of ashes or clinker from boilers or furnaces, give a great deal of trouble. COLAS will, however, bind this material together and provide a clean, hard surface at low cost and so not only eliminate the attention usually required, but also do away with the loose, dusty surface in dry weather and muddy surface during rain.

The existing ash or clinker path should be loosened to a depth of 1 in.- $1\frac{1}{2}$ in., levelled over and thoroughly watered. COLAS should then be applied while the surface is still wet at $\frac{1}{2}$ -gallon to the square yard, covered with $\frac{1}{4}$ in. to dust ashes and thoroughly rolled. On the following day the surface should be swept free from any surplus dust, and COLAS again applied at $\frac{1}{2}$ gallon per square yard, covered either with ashes or clean shingle and again well rolled.

If a stronger method is required and the ash or clinker paths contain a considerable amount of fine material, the following method should be adopted:—The ashes should be loosened to a depth of about 1 in. and a layer of $\frac{3}{4}$ in. stone or gravel super-imposed at the rate of about 40 square yards to the ton, watered and well rolled.

COLAS should then be applied from an ordinary 3-gallon pouring can, fitted with a COLAS Baffle (see page 4, paragraph 6), at the rate of $\frac{1}{2}$ -gallon per square yard, and evenly covered with small ash or clean sand, a ton covering approximately 150 square yards, and the whole well rolled. The entire surface should then be given a further treatment of COLAS at the rate of 2 to 3 square yards to the gallon, covered with clean sand or clean, fine gravel at the rate of 150 square yards to the ton, and the whole well rolled.

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