

# Electricity Specification 400R5

Issue 2      February 2022

## Materials for General Restoration of Roads and Footways



## Amendment Summary

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## 1 General Requirements for Approvals and Testing

### 1.1 Definitions

<b>The Contract</b>	The agreement between Electricity North West and the Contractor for the execution of the Works including therein all documents to which reference may properly be made in order to ascertain the rights and obligations of the parties under the said agreement.
<b>Contractor</b>	The person or person's firm or company, including personal representatives, successors and permitted assigns, who's Tender has been accepted by Electricity North West.
<b>Engineer</b>	Electricity North West Technical Services Manager or his successor or such person specifically nominated on his behalf.
<b>Guarantee</b>	A document serving as security for the materials supplied/contract works for the specified period.
<b>Specification</b>	The Specifications and schedules (if any) agreed by the parties for the purpose of the Contract.
<b>Sub-Contractor</b>	Any person (other than the Contractor) named in the Contract for any part of the Contract has been sub-let with the consent in writing of the Engineer, and the legal representatives, successor and assign of such person.
<b>Supplier</b>	Any person or person's firm or company who supplies goods to Electricity North West or to its Contractor.
<b>Tender</b>	An offer in writing to execute work or supply goods at a fixed price.
<b>Tenderer</b>	The person or person's firm or company, including personal representatives, successors and permitted assigns, invited by Electricity North West to submit a Tender.
<b>Work</b>	All materials, labour and actions required to be provided under seal or hand as the case may be.
<b>Writing</b>	Any manuscript, typewritten or printed statement under seal or hand as the case may be.

### 1.2 Product not to be Changed

No change in the product, packaging or labelling shall be made after Approval has been granted without prior notice to the Engineer, and receipt of a written agreement from the Engineer, in writing, to the proposed change.

### **1.3 Electricity North West Technical Approval**

The Tenderer shall submit, with his tender, proposals for testing which will demonstrate, to the satisfaction of the Engineer, compliance with this Specification. Such tests shall be carried out without expense to Electricity North West.

Alternatively, the Tenderer may submit technical reports and other data which he considers will demonstrate, to the satisfaction of the Engineer, compliance with this Specification. Acceptance of this evidence shall be at the discretion of the Engineer but will not be unreasonably withheld.

### **1.4 Quality Assurance**

The Tenderer shall confirm whether or not approval is held in accordance with the provisions of a quality assurance scheme accredited under ISO 9000. If not, he shall submit a statement of the quality assurance procedures employed to control the quality of the product, including the performance of Suppliers and Sub-Contractors.

The right is reserved for the Engineer to require, from time to time, the repeat of such tests as he may deem to be reasonably necessary to demonstrate continued compliance with the Specification.

The Tenderer shall submit, with his Tender, a list of tests and inspections which are carried out on the product prior to despatch which shall demonstrate, to the satisfaction of the Engineer, fitness for installation and service.

The Tenderer shall provide free of charge to Electricity North West such samples as may, in the opinion of the Engineer, be reasonably required for inspection and/or retention as quality control samples. The requirements for samples will be confirmed by the Engineer at the time of tendering.

The right is reserved for the Engineer to make, from time to time, such inspections of the Tenderer's facilities as he may deem to be reasonably necessary to ensure compliance with this Specification and any Contract of which it forms a part.

The Tenderer shall submit, with his Tender, such details of product packaging disposal, as will enable Electricity North West to comply with the requirements of BS 7750: 1992 - Environmental Management Systems.

### **1.5 Formulation**

The Tenderer shall submit, with the Tender, such details of the formulation and use of the product and associated substances as will enable Electricity North West to comply with the obligations of the Health and Safety at Work Act 1974 and the Control of Substances Hazardous to Health Regulations 2002, in the use, storage and disposal of the product. The Tenderer may stipulate, prior to submission of such information, that it is to remain confidential, and the Engineer will, if requested, confirm agreement to this prior to receipt of the information.

### **1.6 Identification Markings**

The Tenderer shall submit, with his Tender, details of markings which it is proposed to apply to the product or packaging to identify manufacturing batches or items. The forms and content of such markings shall be subject to the Approval of the Engineer.

## 1.7 Manufacturers Already Approved

[Clauses 1.3](#) and [1.4](#) will be waived in the case of products already approved.

## 2 Technical Particulars

### 2.1 Scope

- Surround.
- Backfill.
- Sub-base material.
- Road base.
- Base course.
- Wearing course.
- Permanent cold-lay surfacing material.
- Modular materials.
- Edge sealing compounds.
- Road markings.

### 2.2 References

DOCUMENTS REFERENCED	
<b>BS 594: Part 1 1992</b>	Specification for constituent materials and asphalt mixtures.
<b>BS 4987: Part 1 1993</b>	Specification for constituent materials and for mixtures.
<b>BS 6717: Part 1 1993</b>	Specification for paving blocks.
<b>BS 7263: Part 1 1990</b>	Pre-cast concrete flags, kerbs, channels, edgings and quadrants – Specification.

<b>Department of Transport Specification for Highway Works, HMSO – 7<sup>th</sup> Edition – Clauses 803, 1001 and 1038</b>	
<b>New Roads and Street Works Act 1991</b>	Specification for the Reinstatement of Openings in Highways.
<b>BS 7750: 1994</b>	Specification for environmental management systems.
<b>ISO 9000: 1987 and 1993</b>	Quality systems.
<b>BS 3262: 1989</b>	Hot-applied thermoplastic road marking paints.
<b>BS 6088: 1981 (1993)</b>	Specification for solid glass beads for use with road marking compounds and for other industrial use.

## 2.3 Surround Materials

Materials to surround apparatus shall be sand or limestone and shall be in accordance with HAUC Code of Practice – Specification for the Reinstatement of Openings in Highways – June 1992, Clause S4. Sand or limestone shall be within the following limits:

PARAMETER	SAND	LIMESTONE
Dry Density (gms/cc)	at least 1.65	at least 1.9
Mean Particle Size (D50)	0.28 to 0.70	0.30 to 2.6
Slope (S%)	20 to 36%	8 to 27%
Fines (F%)	2 to 10%	5 to 22%

## 2.4 Backfill Materials

Backfill materials shall be:

- Class A – Graded Granular Materials as defined in HAUC Code of Practice – Specification for the Reinstatement of Openings in Highways – June 1992, Appendix A1.

- Class B – Granular Materials as defined in HAUC Code of Practice – Specification for the Reinstatement of Openings in Highways – June 1992, Appendix A1.
- Class C – Cohesive / Granular Materials as defined in HAUC Code of Practice – Specification for the Reinstatement of Openings in Highways – June 1992, Appendix A1.
- Class D – Cohesive Materials as defined in HAUC Code of Practice – Specification for the Reinstatement of Openings in Highways – June 1992, Appendix A1.

## 2.5 Sub-base Materials

Granular sub-base materials Type 1 to DTp SHW Clause 803 used in accordance with HAUC Code of Practice – Specification for the Reinstatement of Openings in Highways – June 1992, Appendix A1.

## 2.6 Road-base Materials

Cement bound material Category 3 tp DTp SHW Clause 1038.

Concrete to DTp SHW 1001. All roads – C40 mix. Footways – C30 mix.

## 2.7 Base Course Materials

- Dense base course macadam to BS 4987: Part 1 1988.  
All roads – 20mm size dense. 100 pen to clause 6.5.  
Footways – 20mm dense to clause 6.5.
- Hot rolled asphalt base course to BS 594: Part 1 1985.  
All roads – 50/20 mix, 50 pen to Table 2, column 3.  
Footways – 50/20 mix to Table 2, column 3.
- Deferred set macadam 20mm base course to BS 4987: Part 1 1988 minimum binder viscosity of 30 secs STV – approximately equivalent to 10 days deferred.

## 2.8 Wearing Course Materials

- Dense wearing course macadam to BS 5987: Part 1 1998.  
All roads – 10mm size close graded, 100 pen to Clause 7.4.  
Types 3 and 4 roads – 6mm size dense. 100 pen to Clause 7.5.  
Footways – 6mm size dense, to Clause 7.5.
- Hot rolled asphalt wearing course to BS 594: Part 1 1985.  
All roads – 30/14 Design Type F mix, 50 pen (2 to 8 stability) to Table 3 Column 9.  
Types 2, 3 and 4 roads – 30/14 Recipe Type F mix, 50 pen to Table 5, column 21.  
Footways – 15/10 Recipe Type F mix to Table 5, column 19.
- Deferred set macadam 10mm or 6mm wearing course macadam to BS 4987: Part 1 1988 minimum binder viscosity of 30 secs STV – approximately equivalent to 10 days deferred.



## 2.9 Permanent Cold-lay Surfacing Materials

Permanent Cold-lay Surfacing Materials (PCSMs) when specified in substitution for any bitumen macadam permitted for use by HAUC Code of Practice – Specification for the Reinstatement of Openings in Highways – June 1992 shall be as stated in Appendix A10 of that Code of Practice. The following are permitted:

- 20mm nominal size base course.
- 20mm nominal size wearing course.
- 6mm nominal size wearing course.

## 2.10 Modular Materials

For modular roads, footway or footpaths.

Materials may be either:

- Recycled – originally removed from the site and preserved undamaged.
- Equivalent Replacement – as agreed with the responsible Authority.
- Otherwise approved – by the responsible Authority.

## 2.11 Edge Sealing Compounds

A bitumen-based edge sealant shall be supplied in order to paint all bound vertical edges, kerbs and exposed ironworks. Tack coat solution shall not be used as an edge sealant.

## 2.12 Road Markings

In readiness for the restoration of road markings the Tenderer shall include materials for the appropriate preparation of the road surfaces in accordance with BS 3262 and the Department of Transport's Specification for Highway Works.

All thermoplastic materials and road paint supplied to restore road markings to their original state shall be in accordance with BS 3262: Parts 1, 2 and 3 or BS 6044 (Type A material) respectively.

When required, solid glass beads shall be supplied to BS 6088.

Where Local Highways Authorities have individual specifications for the restoration of road markings. Tenderers are to consult with them to ensure compliance with the local requirements.

## 2.13 Packaging and Delivery

The Tenderer shall state the packaging in which the materials will be supplied but it is preferred that they shall be either in bulk or in 25kg bags.

The materials shall be accompanied by documentary evidence showing compliance with the above technical requirements.

For material supplied in 25kg bags, the Tenderer shall state whether these will be delivered on pallets. If so, he shall state the maximum weight of a fully loaded pallet.

## 2.14 Storage

The Tenderer shall indicate which of the following storage conditions are required in order to ensure that, independent of seasonal temperature variations, the materials shall remain in effective condition (i.e. capable of use directly from storage without recourse to additional measures) for a period of 21 days in the case of bulk materials, or 6 months in the case of bagged materials.

- Outdoor uncovered.
- Outdoor sheeted.
- Indoor unheated.
- Indoor other (Tenderer to state specific requirements)

## 2.15 Application

The Tenderer shall state the following:

- Whether the placement of materials shall be:
  - (a) by bulk mechanical methods.
  - (b) by hand or
  - (c) by other methods (these to be stated).
- The method of compacting of materials. These shall be:
  - (a) by hand,
  - (b) by vibrating plate rammer,
  - (c) by roller or
  - (d) by other methods (these to be stated).

## 2.16 Alternative Materials

Tenderers are free to offer for evaluation items which do not fully comply with the technical requirements of this Specification if, in their opinion, they consider them satisfactory technical alternatives to those stated.

Any such alternative items must, however, be accompanied by documentary evidence to support the Tenderers claim of compatibility.