

**AMENDMENT NO. 1 TO SLS 515: 2003 APPROVED ON 2008-12-19
SRI LANKA STANDARD SPECIFICATION FOR MASONRY CEMENT**

FOREWORD

(b) delete **SLS 107 Part 2** and substitute **SLS ISO 679**

Add the following new paragraph at the end of the third paragraph

Guidance on recommended applications for this cement, with respect to other cements, in Sri Lanka (see **Appendix G**), was inserted to satisfy a pressing need of the cement user.

2 REFERENCES

Delete **EN 196-1** Method of testing cement : Part 1 : Determination of strength and substitute with the following:

SLS ISO 679 Method of testing cements – Determination of strengths.

3 DEFINITIONS

3.2 manufacturer :

delete the existing text and substitute with following :

3.2 manufacturer : The establishment responsible for the quality of cement manufactured.

Add the following new clause **3.3**

3.3 packer/distributor : The establishments responsibility for the quality of cement packed and/or distributed in Sri Lanka.

5 REQUIREMENTS

5.1.1 Sulphuric anhydride (SO_3) :

Delete **SLS107 : Part 2 : 2002** and substitute with **SLS 107 : Part 2 : 2008** wherever it appears.

5.2.1 Initial setting time

Delete existing text and substitute with following:

The initial setting time of cement paste of standard consistency as determined by method described in clause 7 of **SLS 107 Part 2 : 2008** shall conform to requirements given in Table 2.

5.2.2 Delete the entire clause, re-number the rest of the clauses and replace the content of “Soundness” as follows:

5.2.2 *Soundness*

The expansion shall not be more than 10 mm when tested according to Clause 8 of **SLS 107 : Part 2 : 2008**.

5.2.4 *Compressive strength*

Delete the existing text including table and substitute with following:

The average compressive strength of three mortar prisms prepared, stored and tested as in method described in **SLS ISO 679** shall conform to the requirements given in Table 2.

TABLE 2 – Mechanical and physical requirements given as characteristics values

Strength class	Type	Compressive strength MPa		Initial setting time
		7 days strength	28 days strength	
22.5 N	AE	≥10	≥22.5	< 1 h
22.5 N	NAE	≥ 10	≥22.5	< 1 h

NOTE : *An air-entraining agent is incorporated into the masonry cements of lower strength classes to improve their workability and durability. An upper limit is set for air content to maintain good bond strength to masonry units. The water retention limits are specified for all classes of masonry cement to provide a performance suitable for use with high suction masonry units.*

6 MARKING

Delete the existing text and substitute with following text and the Figure as Figure 2, and re-number the existing Figures accordingly.

6.1 Masonry cement manufactured in compliance with this standard shall be marked on the bag legibly and indelibly with particulars given in (a) to (i). When supplied in bulk, manufacturer’s certificate, delivery note or invoice shall also provide the following information:

- a) name and the address of the manufacturer (see **3.2**);
- b) name and the address of the packer and distributor, where relevant (see **3.3**);
- c) generic name of the product in Sinhala, Tamil and English, that is :

උළුම සිමෙන්ති
 மேற்பூச்சு வேலைக்கான சீமெந்து
 Masonry cement

- d) type of Masonry cement. that is, air entrained (AE) or non air entrained (NAE);
- e) strength class (see table **2**);
- f) product certification mark (see Note 2 below);
- g) the week of manufacture and the date of packing;
- h) net mass of the contents in kg if packed in bag or tonne (1000 kg) if supplied in bulk;
and
- j) best before (as declared by the manufacturer)

NOTES

1 *Item C shall appear in Sinhala, Tamil and English as specified in 6.1 (c).*

2 *Attention is drawn to the product certification marking facilities offered by the Sri Lanka Standards Institution see the inside back case of the standard.*

3 *For guidelines on usage of this cement see Appendix G.*

4 *For the best before date to be valid, cement should be delivered stored and used as specified in this standard.*

At the end of **6.2** add following clauses as **6.3** and **6.4**.

6.3 The size of the letters used for (c), (d), (e) and (f) shall be not less than one third of the size of the letters used for the brand name or a height 12 mm, which ever is larger.

6.4 In the case of the bagged cement brand name, generic name and **SLS** mark shall be displayed on the front side of the bag. Information in Figure **2** should be displayed on the rear side of the bag.


உலக சிறந்த
மேற்புச்ச வேலைக்கான சீமெந்து
Masonry cement
Strength class of cement
AE or NAE
The address of the manufacturer, packer and the distributor

515
The week of manufacture and the date of packing
Net mass in kg
Best before

FIGURE 2 – Format for labeling the rear side of the cement bag

7 DELIVERY AND PACKING

Delete the existing text and Table 3 and substitute with following; re-number the existing Tables accordingly.

The cement shall be supplied in bulk, or packed in bags of sufficient strength to prevent damage during normal handling.

Any container used for bulk supply shall have an airtight fully enclosed body robust enough to prevent spillage of cement, and a special facility for dustless discharge such as air slide, pneumatic discharger or spiral conveyer.

In order to assess whether cement bags are of sufficient strength, the drop test on bags consisting of masonry cement, as delivered, shall be carried out and described in Clause 10 of

SLS 107 : Part2 : 2008. Each masonry cement bag shall be cable of sustaining 10 drops without failure to pass the test.

When masonry cement is issued in bag form, the net mass of each bag shall be at least 50 kg. The net mass of the bag of cement shall be determined by its gross mass and the mass of package. The nominal mass of the empty bag shall be marked (to the nearest gram) on the package, where facilities exist for such marking. If mass of empty bag is not displayed on the bag, mass should be determined by weighing 10 empty bags used for the same batch. These empty bags should be supplied by the manufacturer or packer/ distributor (see **3.2** and **3.3**).

The bags of masonry cement which are not in good condition, due to causes such as moisture patches, torn bags, burst stitches, spilling cement or exudation of cement dust shall be rejected.

NOTE : *To protect cement from premature hydration after delivery, bulk silos should be water proof and internal condensation should be minimized. Paper bags should be stored clear of the ground not more than eight bags high and protected by water proof structure. As significant strength losses begin after 4 weeks to 6 weeks of storage in bags in normal condition and considerably sooner under adverse weather conditions or high humidity, deliveries should be controlled and used in order of receipts.*

8 MANUFACTURER'S CERTIFICATE

Delete existing text in b (iii) and substitute with following;

iii) initial setting time.

Delete Note 2.

9 INDEPENDENT TESTS

Delete the existing Note.

New Clause

Add the following new clause for Compliance as 11.

11 COMPLIANCE

Any consignment or part of a consignment which, when sampled in accordance with 10, fails to comply with any one or more of the requirements of this standard, shall be deemed not to comply with this standard.

Cement retaining in bulk storage at the mill, prior to delivery, for more than 6 months or cement in bags in local storage in the hand of a vendor for more than 3 months after completion of tests, may be tested before used and shall be rejected if it fails to conform to any of the requirements of this standard.

APPENDIX A

Wherever Figure 2 Table 4 and Table 5 appear, it should be read as Figure 3, Table 3 and Table 4 respectively.

APPENDIX B

Wherever Figure 3 appears, it should be read as Figure 4.

APPENDIX C

Wherever Figure 4 and Figure 5 appear, it should be read as Figure 5 and Figure 6 respectively.

APPENDIX D

Wherever Figure 6 appears, it should be read as Figure 7.

APPENDIX E

Wherever Figure 7 and Table 6 appear, it should be read as Figure 8 and Table 5 respectively.

APPENDIX F

Wherever Figure 8, Figure 9a, Figure 9b, Figure 9c and Figure 10 appear, it should be read as Figure 9, Figure 10a, Figure 10b, Figure 10c and Figure 11 respectively.

NEW APPENDIX

Add the following appendix after Appendix F as Appendix G.

(given in the attached Annexure)

APPENDIX G

TABLE 4 : Guidelines for usage of cements in Sri Lanka (SLS 107, SLS 515, SLS 1247 & SLS 1253)

Cement type and SLS No	Strength Class	Guidelines for usage ¹ of Cements in Sri Lanka									
		(a) Medium strength concrete (greater than grade 30 & up to 40)	(b) Normal strength concrete (grade 30 & below)	(c) Concrete subjected to severe exposure ² condition	(a) & (c)	(b) & (c)	Pre-cast concrete	Cement based products	Masonry work	Plastering	Rendering
OPC SLS 107	32.5 N	**	***	**	**	**	***	***	**	**	***
	42.5 N	***	***	**	**	**	***	***	**	**	***
BHC SLS 1247	32.5 N	**	***	***	**	***	**	*	**	**	***
	42.5 N	***	***	***	***	***	**	*	**	**	***
PLC SLS 1253	32.5 N	**	***	*	*	*	**	*	**	**	***
	42.5 N	***	***	*	*	*	**	*	**	**	***
MC SLS 515	22.5 N	NR	NR	NR	NR	NR	NR	NR	***	***	NR

*** – Strongly recommended, ** – Recommended, * – May be used under technical guidance, NR – Not recommended

BHC – Blended Hydraulic Cement, OPC – Ordinary Portland Cement, PLC – Portland Limestone Cement, MC – Masonry Cement

Note 1 – Usage of cement for a specific application should be in accordance with relevant concrete or mortar specification for that application.

Note 2 – For the specific exposure condition of “concrete subject to water pressure in a very aggressive condition rich in sulphates”, PLC content in the mix should be more than that of OPC, if PLC is used.