CEMENT TRAFFIC & WAGONS

The invention of 'modern' cement is accredited to Joseph Aspdin, creating Portland Cement in 1824. I can imagine it wasn't too much of a gap before the product was being moved by rail, and it would have been bagged and moved in vans. A specific example would be the GWR dedicated Iron Mink cement vans, which could be seen in B.P.C.M. grey livery and in Ferrocrete yellow. By the 1950s when the Iron Minks were being withdrawn, Blue Circle purchased its own plywood-bodied vans for the traffic.

The LMS did develop a 20T hopper wagon for cement in 1932, diagram D1806, built by the Metropolitan Carriage, Wagon & Finance Company. This had 3 top doors for loading and 4 bottom doors for discharging through holes carefully arranged in the chassis. But post-war Britain was in a period of great reconstruction and cement was required to be transported more easily and in greater quantities; whatever the LMS used, or bags in vans, would not be enough.

The early British Railways period wagons for cement can be split in two groups, hopper wagons and containerised wagons.

Containerised Wagons
The principle was to use a Conflat wagon. About 20,000 Conflat wagons were built, but comprised of various designs for differing types of containers. The Conflat L was specially adapted to carry 3 containers for cement, with holes in the wagon floor to allow the cement to be discharged.

Diagram	Lot	Count	Year	Built	Numbers	Notes
1/064	2489	373	1953	Ashford	B738500 to B738872	14T, short buffers (18")
1/066	2671	500	1955	Ashford	B733500 to B733999	14T
1/068	2764	300	1955	Swindon	B734000 to B734299	14T
	2870	70	1956		B738873 to B738942	14T
	2973	260	1957		B734300 to B734559	14T, screw couplings
	3108	577	1958	Ashford	B530000 to B530576	
	3384	162	1961	Derby	B530577 to B530738	

The containers were first developed in 1951 and had their own numbering series, all 6,386 of them. They were built to D.3/450 in 11 lots between 1951 and 1961. Each weighed around 12cwt and could carry around 4 tons of cement, 3 to a wagon.

Hopper Wagons
The 20 ton hopper cement wagon – "Presflo", short for 'pressure flow' - was developed in 1954, the prototype (allocated Diag. 273) being delivered in June. Contents would be loaded by gravity but gravity needed the assistance of compressed air for discharging; a mobile compressor could suffice. Apparently the flow of aerated powder resembled the flow of milk! Although designed for cement, adaptations were made for powdered slate, fly-ash, calcium carbide, flour and salt, with some of the salt versions subsequently converted for the slate traffic. In all,1,921 Presflo wagons were built with the last of them taken out of service in 1987.

Diagram	Lot	Count	Year	Built	Numbers	Notes
1/273	2679	1	1954	Shildon	B888000	Prototype
1/272	2769	110	1955		B888001 to B888110	18" self-contained buffers, instanter couplings, single vacuum brake cylinder
	2863	70	1956		B888111 to B888180	
	3029	100	1957	Metro-Cammell	B888181 to B888280	20.5" self-contained buffers, screw couplings, single vacuum brake cylinder
	3156	300	1958		B888281 to B888580	The final 30 of this lot were branded 'Bulk Salt' for ICI, with 2 silos.

	3175	300		Central	B888581 to B888880	
	3176	100		Butterley	B888881 to B888900	
	3177	200		GRCW	B887800 to B887999	Designed for a planned traffic of Fuller's Earth, via train ferries, to Italy. With screw couplings and drawbars
	3323	170	1960		B873024 to B873193	Built with instanter couplings
	3361	170	1961		B873200 to B873369	Built with Oleo buffers, this lot for Rugby Cement
	3406	150			B873420 to B873569	
	3409	150			B873570 to B873719	
	3497	100		Central	B873794 to B873893	Rated 22 tons
1/276	3371	40	1960	Powell-Duffryn	B870590 to B870629	23T Calcium Carbide wagon, lettered "Carbide of Calcium"
1/278	3483	22	1964	Shildon	B873771 to B873792	17T Fly Ash PresFlo, vacuum brakes
1/279	3491	1		Darlington Loco.	B873793	21T version of Diag 1/278
	3515	22		Shildon	B873894 to B873915	21T version of Diag 1/278 Disc brakes
	3516	62		Ashford	B873916 to B873977	21T version of Diag 1/278 Disc brakes
1/280						Air brakes
1/281	----	1			B873082	17T Fly Ash PresFlo, converted from Lot 3323
1/282						22T Fly Ash PresFlo air brakes. Longer wheelbase

The 100 Butterley examples were built for APCM (Associated Portland Cement Manufacturing Company), with an eventual fleet of 130 wagons displaying that Company's Blue Circle logo on a large rectangular board place high on the wagon sides. These wagons were originally in a bright yellow livery – see the Airfix model (noted below) – but this impractical colour was later replaced with grey. APCM ultimately owned more than 200 Presflo wagons, purchased between 1960 and 1963, these remaining in service until the 1980s.

Tunnel Cement also had a small Presflo fleet, these being used on specific flows from South Wales to Birmingham and Southampton.

Prestwin Wagons

The Prestwin design was produced to handle powders unsuitable to the Presflo design, including alumina hydrate, lime, sand, soda ash and sodium tripolyphosphate. For a local twist, from 1972 these wagons were used to move Hydrate of Alumina from Burntisland to Welwyn Garden City, and just too late for the period for Finchley for these wagons, the sodium traffic included workings to Procter & Gamble at West Thurrock. 131 wagons were built.

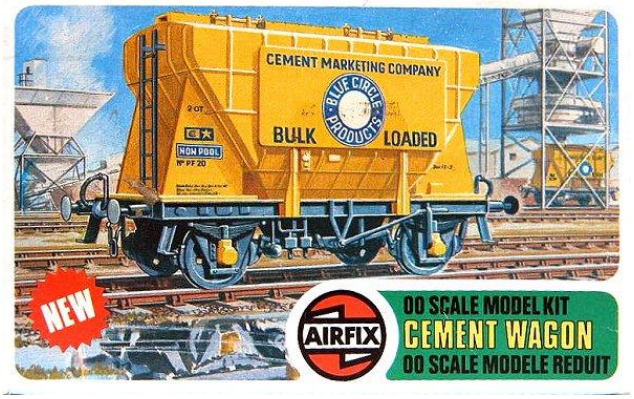
Diagram	Lot	Count	Year	Built	Numbers	Notes
1/274	3313	30	1960	Metro-Cammell	B873000 to B873023 B873194 to B873199	Prestwin 20T, 10'6" wheelbase
	3467	1		R Y Pickering	B873770	
1/277	3405	50	1961	GRCW	B873370 to B873419	20T Prestwin increased capacity, 12' wheelbase
	3460	50	1962		B873270 to B873769	

Models

I can't trace an OO scale model of the Conflat L being produced in the past 40 years, but for interest there was a Triang version, pictured here.

The LMS D1806 hopper wagon might occasionally turn up on eBay, as a Jidenco etched brass kit

Presflo



A long-in-the-tooth model is the Airfix kit (R2) of a Presflo, branded as Blue Circle Cement. The kit is also now available from Dapol (C030)
Dapol have produced around 30 livery variations of the Presflo in RTR form, mostly for cement traffic, but also 3 livery variants for salt traffic and a couple for powdered slate.
Bachmann have produced their own version of the Presflo, for around 20 livery variants, and are much superior to the Dapol versions.

Prestwin

Airfix (R10) and Dapol (C043) have produced a kit version of this wagon, still available.
Bachmann proposed a RTR version in 2019, but the model has been deferred, seemingly indefinitely.
Hornby produced two versions in their catalogue, dating back to about 1978. R125 and R723 are both BR bauxite versions, and R011 and R095 are both Fisons white-liveried versions.

Preserved Wagons

I've identified six preserved wagons

Diag. 1/271
B 885280 Buckingham Railway Centre
B 887823 Midland Railway Centre
B 885463, location not known

Diag. 1/272
B 873368 NRM Shildon

Science Museum collection photo

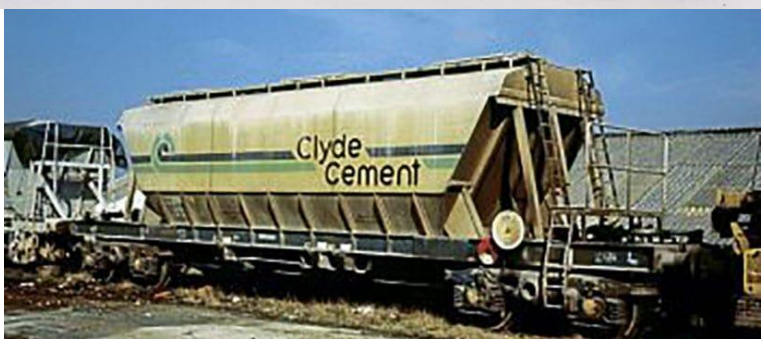
Diag. 1/280
Identity unknown, at Railworld Peterborough

Diag. 1/282
B 874172 Gloucestershire Warwickshire Railway

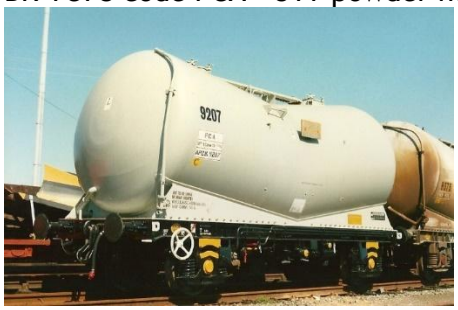
Later cement types (not relevant to Club layouts)

BR TOPS code IWB –
large bogie ferryvan, used by Blue Circle circa 1980s – This version is a model by Heljan

BR TOPS code PBA - Bogie Covered Cement Clinker Hopper circa 1982. (Clinker Hopper ? Wasn't he a General in 'Allo 'Allo ??😉 - with my apologies!)



BR TOPS code PCA – 51T powder hopper, introduced 1972, and 'metalAir' version in 1984



BR TOPS code PCB – 2 axle cement wagon
No image available, though one type very similar to the 'V' PCA tank

BR TOPS code PCV – 36T powder hopper, introduced 1960
Pictured here is an Accurascale model.

Although we originally planned Finchley for about 1959, trains of these wagons were used on the Cliffe – Uddingstone cement trains from 1960 with a pair of class 33 diesels. They would have passed through Finchley before gaining the ECML at Harringay.

BR TOPS code PDA/JCA – 79.6T bogie cement hopper, introduced 1969

There was a further PDA type for which I can find no usable photo, of a single hopper on bogies, and there was a unique 100T wagon marked 'out of gauge' occasionally used as a silo at Barrington cement works near Royston.

BR TOPS code JIA – 80T powder hopper, introduced 1983

BR TOPS code JGA – Bogie cement, introduced 2003
This example has been built from a 3DWagonWorks print.

BR TOPS code JPA – Bogie cement, introduced 2007
This example is a Bachmann model

Some of this article was sourced from this link, where there is further information.
[Gloucester RCW and Bulk Cement Wagons - Gloucestershire Transport History]