



Pliastic

Products described in this data sheet

Pliastic A2

Pliastic 77

Pliastic 99

The product in brief

Pliastic hot-poured rubber bitumen horizontal joint sealant is formulated for sealing movement and construction joints in concrete pavements and floor slabs. It possesses good adhesion to concrete and asphaltic materials.

- An economical sealant for horizontal and inclined joints up to 1 in 20
- Resists dirt and ingress of grit associated with trafficked pavements
- Suitable for sealing joints in potable water tanks
- Good adhesion to concrete and asphalt surfaces

Specification compliance

British Standard 2499:1973 - Pliastic A2

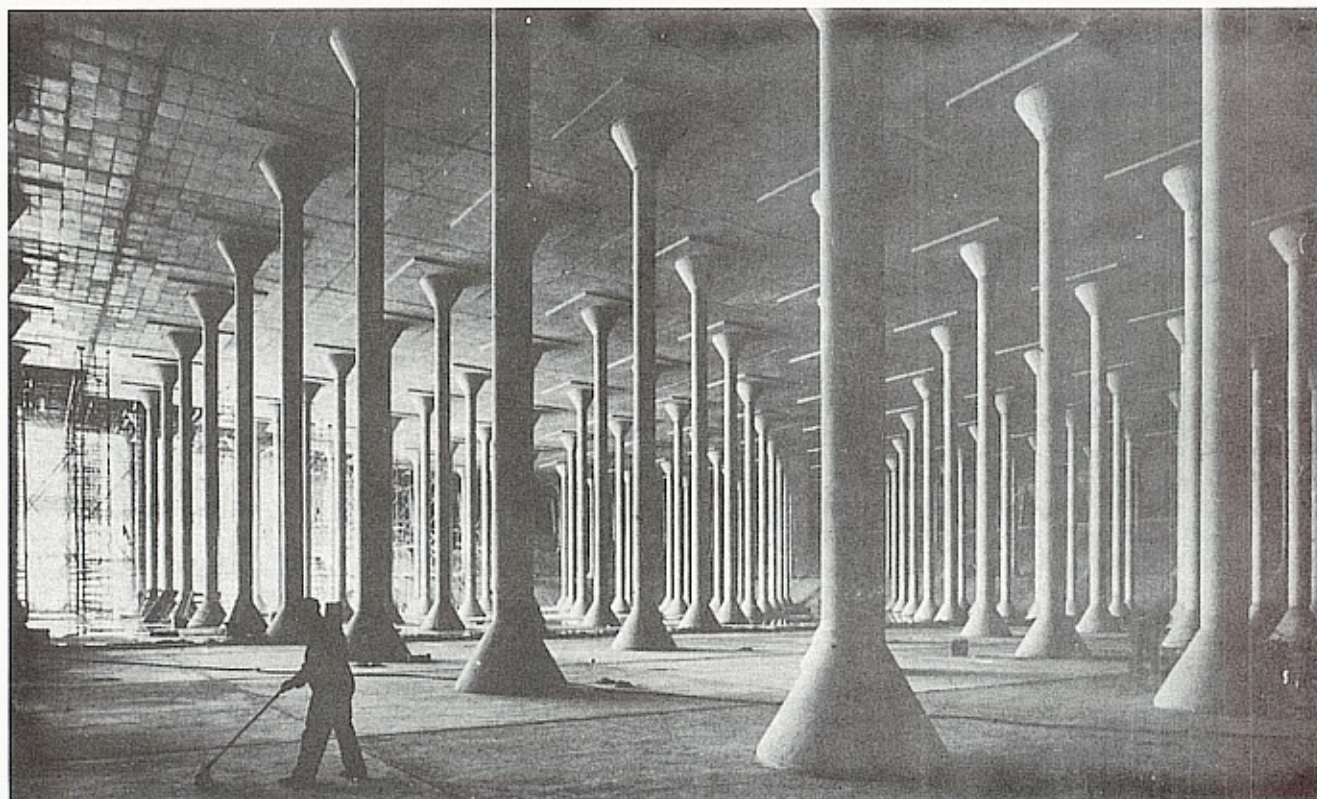
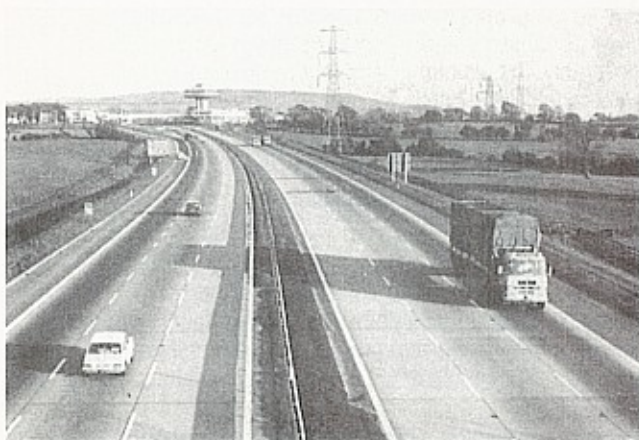
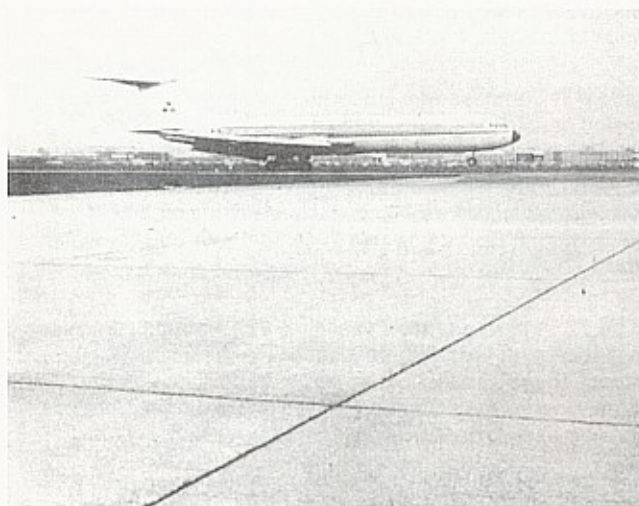
British Standard 6920:1988 - Pliastic A2

Water Research Council approved (for contact with potable water approval no. 8810512)

Principal applications

For sealing joints in:

- Pavements
- Water retaining structures
- Water excluding substructures



Pliastic

Description

Pliastic sealants are hot-poured, rubber bitumen horizontal joint sealing compounds, black in colour.

Pliastic A2: Complies with BS 2499: 1973 (Type A2). A low extension grade for sealing joints in concrete pavements, reservoirs, etc., where joint spacings are not more than 12m.

Pliastic A2 also complies with the requirements of the UK Water Research Council for use in contact with potable water approval no. 8810512.

Pliastic 77: A hard grade for sealing low movement joints in factory floors and areas where joints are closely spaced and resistance to grit and traffic is of primer importance. In hot climates, grade 77 is softer and more flexible and is therefore suitable for use in roads, runways, reservoirs, etc.

Pliastic 99: Similar in composition to Pliastic grade 77 but formulated with a higher softening point for use in hot climates for sealing joints on exposed sites such as unreinforced concrete pavements where other grades would be unacceptably soft. At higher ambient temperatures the properties of Pliastic grade 99 approximate to those given for Pliastic 77 in temperate climates. It is not suitable for use where temperatures fall below 4°C.

Joint size: Pliastic compounds are normally considered suitable for joints up to 30 mm wide in trafficked surfaces, but joints up to 65 mm wide can be sealed with Pliastic where the joints are horizontal and are not subject to trafficking. The depth of the joint sealing compound should not exceed 50 mm and for most normal uses, 25 mm is recommended.

Pliastic can be used on inclined surfaces up to about 1 in 20. Extra care must be taken, however, when pouring. Vertical joints, e.g. kerbs, upstands, etc. should be sealed with Plastijoint.

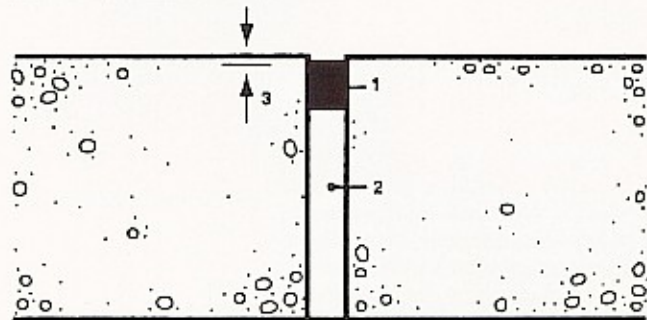
Packaging: Pliastic A2 and Pliastic 77 are supplied in UK in paper sacks containing 25 kg. All grades of Pliastic are supplied overseas in steel drums containing 50 kg.

Applications

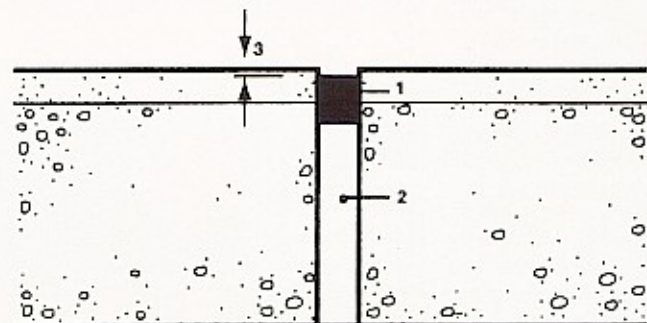
Roads and traffic surfaces: Pliastic compounds are particularly recommended for sealing joints in reinforced and unreinforced concrete roads and airfield runways.

Since they are bituminous compounds, they are suitable for sealing against bituminous asphalt surfaces. Pliastic compounds do not comply with the fuel resistant requirements of BS 2499: 1973 and should not be used in airfield hard-standings, cargo handling areas, garage forecourts or other paved areas subject to fuel and oil spillage. For these applications Colpor 200 should be used.

Example of sealed expansion joints in roads, runways and other traffic surfaces is shown below.



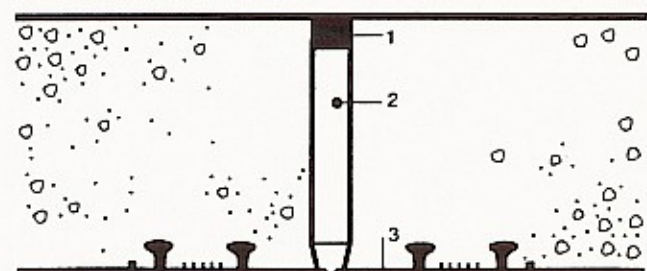
Example of sealed expansion joints in granolithic screeded areas is shown below.



- 1 Pliastic
- 2 * Flexcell, or other compressible filler
- 3 Recessed seal

Water retaining structures: Pliastic compounds are recommended for sealing horizontal joints in many types of water retaining structure, including reservoir floors and roofs, swimming pool substructures and irrigation canal floors. In addition to the Pliastic surface seal, all immersed joints in water retaining structures should contain waterstops. It should be noted that reservoir roof joints are frequently subjected to greater movements than others elsewhere in the structure. Movements during construction may exceed those during service life. In addition to the Pliastic surface seal, all roof joints should contain a supplementary means of sealing.

Example of sealed expansion joints in floors of reservoirs, irrigation canals, swimming pool substructures, basements and subways is shown below.



1. Pliastic A2
- 2 * Hydrocell
- 3 * Supercast Rearguard Waterstop



Pliastic

Equipment

Oil jacketed melting vessel or oil jacketed melter pourer

Site instructions

Joint preparation: Ensure that the joint surfaces are completely dry, clean and frost free. Remove all dirt, dust, laitance and loose material preferably by grit blasting or by rigorous wire brushing, immediately prior to priming blow out all remaining loose dust with dry, oil free compressed air.

Priming porous surfaces: Use Primer No. 3 on concrete, stone and brick paving. Allow primer to become touch dry before sealing, normally 1 to 4 hours.

Priming non-porous surfaces: Metal surfaces do not require priming but should be warmed to ensure satisfactory adhesion. Ferrous metals should be treated with an anti-corrosion primer.

Stripping of sacks: Lay sack on flat surface and cut bottom seam with a sharp knife. Tear away outer layers and then strip off inner layer of paper, working from the bottom of the sack. No paper should be put into the heater.

Heating: The use of a heating vessel with an oil jacket and fitted with stirrer and thermometer is essential.

Cut the compound into small pieces, melt a few pieces then gradually add more pieces to the molten material, stirring continuously. Heat until the compound reaches correct pouring temperature.

Pliastic A2 175 to 185°C
Pliastic 77 180 to 190°C
Pliastic 99 200 to 205°C

Do not overheat. Use as soon as possible after heating, preferably within two hours.

Safe heating temperatures:

Pliastic A2 190°C
Pliastic 77 195°C
Pliastic 99 210°C

Caution: Heating of compound should be carried out in well ventilated areas.

Application: Joints should be filled to the surface of the concrete or to the level specified. Joint seals in carriageways are normally finished in 3 mm to 6 mm low, to avoid extrusion. A concave finish due to shrinkage on cooling is normal but in a deep or narrow joint the compound may be poured in two layers to produce a uniform finish.

Cleaning: Equipment should be emptied immediately after use. Compound which has been heated and allowed to cool completely must be scrapped.

Quantities

Guide to Pliastic quantities:

Joint size in mm	kg per metre run	metre per 25 kg sack	metre per 50 kg drum
10 x 20	0.20	122	245
25	0.26	98	196
30	0.31	81	163
40	0.41	61	122
15 x 20	0.31	81	163
25	0.38	65	130
30	0.46	54	108
40	0.61	40	81
50	0.77	32	65
20 x 20	0.41	61	122
25	0.51	49	98
30	0.61	40	81
40	0.82	30	61
50	1.00	24.5	49
25 x 20	0.51	49	98
25	0.64	39	78
30	0.77	32	65
40	1.00	24.5	49
50	1.30	19	39
60	1.50	16	32
65	1.70	15	30
30 x 25	0.77	32	65
30	0.92	27	54
40	1.20	20	40
50	1.50	16	32
35 x 25	0.89	28	56
30	1.10	23	46.5
40	1.40	17.5	35
50	1.80	14	28
40 x 25	1.00	24.5	49
30	1.20	20	40.5
40	1.60	15	30.5
50	2.00	12	24.5
50 x 25	1.30	19.5	39
30	1.50	16	32
40	2.00	12	24.5
50	2.60	9.5	19

Guide to primer quantities:

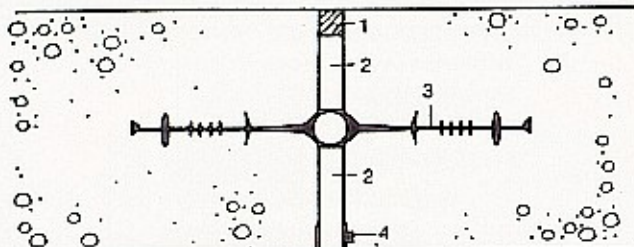
5 litres Primer No 3 for 250 kg of Pliastic



Pliastic

Water excluding substructures: Pliastic compounds are suitable for use in joints in building basements, subways, etc. All joints which extend below the high water table level should contain waterstops in addition to the Pliastic seal.

Example of sealed expansion joints in concrete reservoir roof slabs is shown below.

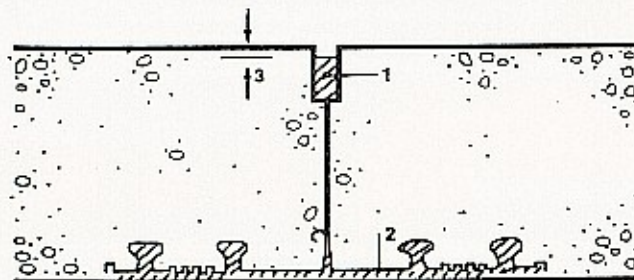


- 1 Pliastic A2
- 2 * Hydrocell
- 3 * Supercast Hydrofoil Waterstop
- 4 * capping strip, if required

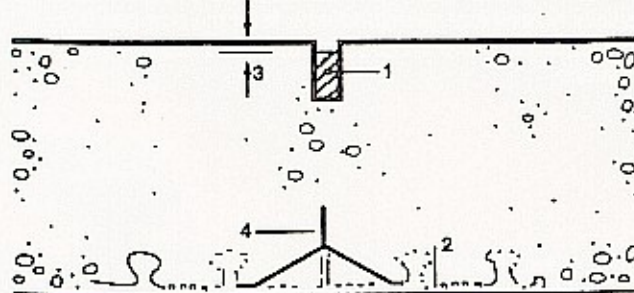
Services and Internal finishes: Pliastic 77 is suitable for sealing joints in factory floors other than those subject to petrol, oils or fats. Since Pliastic softens when heated, it should not be used in floors with under-floor heating or in areas where it would be subjected to heat from factory plant or steam cleaning operations.

Pliastic compounds are suitable for sealing horizontal joints in service duct covers.

Example of sealed construction and contraction joint in horizontal surface is shown below.



Example of sealed induced contraction joint in horizontal surface is shown below.



- 1 Pliastic
- 2 * waterstop, if required
- 3 recessed seal if trafficked surface
- 4 crack inducer strip

Further reading

Department of Transport Specification for Road and Bridge Works 1986.

Cement and Concrete Association: ground floors, design, construction and finish.

Specification

Preparation: The joint surfaces must be dry and free from old sealing compound, dust, scale, grit, laitance and loose stones. New concrete surfaces shall be cured before compound is poured. Where applicable, care must be taken to ensure that compressible filler, such as Flexcell, will provide adequate support for the Pliastic compound. Absorbent surfaces, such as concrete and brickwork, require priming with Primer No. 3. Metal surfaces do not require priming but should be warmed with a gas torch to ensure satisfactory adhesion.

Application: It is essential that the correct equipment is used for melting Pliastic to ensure that the subsequent performance is not impaired by damage through overheating or pouring at the wrong temperature. The heating apparatus must be equipped with a thermometer, an oil jacket and a means of stirring the molten compound. Direct heating should be limited to equipment fitted with a mechanically driven stirrer. Appropriate equipment is listed below.

Extra care should be taken in cold weather. The cold surfaces of the joints may cause rapid chilling of the compound. To help compensate for this, the compound should be poured at the top limit of the pouring temperature range. Frost may give concrete a deceptively dry appearance.

Compound which has been heated and then allowed to cool below 95°C must be scrapped. It must not be remelted for use. In expansion joints, Pliastic should be poured to a level 3 to 6 mm below the traffic surface, to allow for upward displacement when the joints close.

Note: For small jobs, Pliastic 77 may be used with a small, directly heated vessel, but great care must be taken to avoid overheating the Pliastic compound. In such cases limited quantities of the material should be cut up into small lumps and melted by gradually adding the pieces to the molten mass whilst continually stirring.

Maintenance: No special requirement, damage should be repaired if and when it occurs.

Contract application

The designer or contractor may wish to use the services of a specialist sub-contractor for joint sealing work. Names of preferred sub-contractors are available from Fosroc.

Ancillary materials

Primer No. 3

Primer No. 3: A one part black liquid for brush or spray application.



Pliastic

Technical data

Form:	Pliastic solid	
Storage life:	2 years. Pliastic must be stacked flat not more than six high and covered if stored outside	
Flash point:	Over 65°C	
Solids content:	100%	
Density:	1.02 kg/litre	
Colour:	Black	
Application temperature:	Over 5°C	
Product pouring temperature range:	Pliastic A2	175 to 185°C
	Pliastic 77	180 to 190°C
	Pliastic 99	200 to 205°C
Safe heating temperature:	Pliastic A2	190°C
	Pliastic 77	195°C
	Pliastic 99	210°C
Chemical resistance to occasional spillage:	Dilute acids	resistant
	Dilute alkalis	resistant
	Petroleum solvents	not resistant
	Mineral oils	not resistant
	Vegetable oils	not resistant
	Greases	not resistant
Drinking water:	Pliastic is not soluble in water and therefore imparts no taint to it	
Movement accommodation factor:	Total joint range, butt joints: Pliastic A2: 12% Pliastic 77 and Pliastic 99: 10%	

Technical data: ancillary materials

Expandite Primer No. 3

Flash point:	-1°C
Density:	0.85 kg/litre
Storage life:	12 months +
Coverage:	12.5 m ² /litre
Physical or chemical change:	Solvent release
Application temperature:	5 to 50°C
Drying time:	1 to 4 hours at 25°C
Pack size:	5 and 25 litre

Health and safety

Pliastic: No significant hazard

- Do not melt the compound in a confined space as concentrated fumes may be injurious.
- Avoid breathing vapours and skin contact.
- Do not exceed safe heating temperatures.
- For further information see relevant Product Information Sheet available on request from Fosroc Sales Office.

Expandite Primer No. 3:



- Highly Flammable
- Petroleum mixture giving off a flammable heavy vapour.
- Flash point minus 1°C (30°F).
- Store away from heat.
- Do not use near sources of ignition such as naked flames or lights.
- Avoid prolonged inhalation of vapour.
- Avoid contact with skin and eyes.
- In the event of discomfort due to excessive inhalation, remove affected person to fresh air.
- In the event of contact with the eyes irrigate liberally with clean cold water and seek medical advice.
- Remove dried material from the skin with a proprietary hand cleaner.
- Do not use solvents.

Melter Power Machine: Do not use in a confined space as concentrated fumes from melting compounds may be injurious. Always store machine (including overnight) so that water cannot enter the compound container or oil jacket.

Important note

Whilst all reasonable care is taken in compiling technical data on the company's products all recommendations or suggestions regarding the use of such products are made without guarantee since the conditions of use are beyond the control of the company. It is the customer's responsibility to satisfy himself that each product is fit for the purpose for which he intends to use it and that the actual conditions of use are suitable.

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Technical data: ancillary materials

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Storage life:	12 months +
Coverage:	12.5 m ² /litre
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Pack size:	5 and 25 litre

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