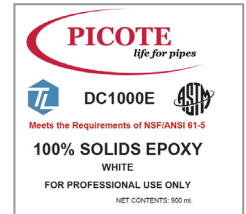




# Operators Check List

## Picote Brush Coating™ System (DC1000E)



**DO NOT** use the equipment if you have not been trained.

### **WARNING**

For your personal safety always ensure that you have read and understood the Operational and Safety Instructions.

Always follow the manufacturer's instructions when installing and using the machine with accessories.

### Only Use Picote Tools Designed for Coating



**Danger** risk of serious injury or death by electrocution, follow the instructions



**Danger** risk of serious injury, follow the instructions



**Danger** risk of serious injury from rotating parts

### Personal Protective Equipment (PPE)

Always use Personal Protective Equipment including suitable protective clothing, footwear plus:



Suitable eye protection to protect against sewage, chemicals or dust from irritating eyes.



Suitable ear protection to protect against any hearing loss.



Suitable heat and cut resistant gloves to help prevent any hand injuries. Any open injuries or skin irritations should always be covered to avoid contact with sewage, chemicals or dust.



Suitable respirator to prevent any resin dust or fumes being inhaled or consumed, which could cause occupational asthma or dermatitis.

### Resin Temperatures

Resin Storage Temperature: +16°C (60°F) to +29°C (85°F)

Installation Temperature Range: +10°C (50°F) to +60°C (140°F)

Resin Application Temperature: +20°C (68°F) to +25°C (77°F)

**Resins have limited work time. Higher temperatures will decrease the work time. If the resin is over +29°C (85°F) it is recommended to chill the resin slightly before installation. If too cold the resin may become difficult to pump.**

### Cure Times

Time between coats: 3 hrs @ +21°C (70°F) or until dry to the touch (curing time can be reduced by using the Picote Heater).

Return to service: 4 hrs.

**Return to service for drinking water: 24 hrs.**

Can be re-coated within 12 hrs without any preparation. After 12 hrs the Smart Cutter™ and grinding panels must be used to abrade the coating surface to ensure proper bonding of the next coat and the dust removed.

### Temperature Resistance

Finished Product: up to 82°C (180°F) for commercial hot water. For chemical solutions please refer to the Chemical Resistance Charts.

## Machine Performance

Mini Pump + Mini Cleaner: DN32 to DN75 (1¼" to 3") / Max length per run 15 metres (50')

Mini Pump + Mini Miller: DN50 to DN150 (2" to 6") / Max length per run 22 metres (75')

Maxi Pump + Maxi Miller:

DN70 to DN100 (3" to 4") / Max length per run is 39 metres (130ft)

DN150 to DN225 (6" to 9") / Max length per run is 35 metres (115ft)

DN250 to DN300 (10" to 12") / Max length per run is 30 metres (100ft)

## Pipe preparation procedure – Metallic Pipes

- Remove any fats, oils or grease using a suitable degreaser
- Clean the pipe using the Picote grinding chains or other comparable tooling
- Flush the pipe with water, air or a vacuum cleaner to remove all debris
- If needed, smooth the pipe surface using the grinding panels
- Finally use the wire brush tool to remove any fine dust or remaining particles

## Pipe preparation procedure – Plastic Pipes

- Remove any fats, oils or grease using a suitable degreaser
- Clean the pipe using the PVC original and/or PVC cyclone chains
- Flush the pipe with water, air or use a vacuum cleaner to remove all debris
- Scour the pipe surface using the grinding panels
- Finally use the nylon cleaning brush tool to remove any fine dust or remaining particles

## Select the correct size coating brushes from the tables below

Recommended Coating Brush Diameters (Mini Cleaner / Mini Miller)				
Host Pipe Diameter	Front Coating Brush (Straight)	Front Coating Brush (Multiple Bends)	Rear Coating Brush	Distance Between Brushes
DN32 (1¼")	50mm (2")	N/A	N/A	N/A
DN40 (1½")	50mm (2")	50mm (2")	50mm (2")	40mm (1½")
DN50 (2")	75mm (3")	100mm (4")	50mm (2")	50mm (2")
DN70 (3")	100mm (4")	125mm (5")	75mm (3")	75mm (3")
DN100 (4")	125mm (5")	175mm (7")	100mm (4")	100mm (4")
DN150 (6")	175mm (7")	220mm (9")	150mm (6")	150mm (6")

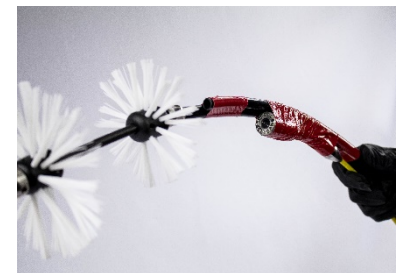
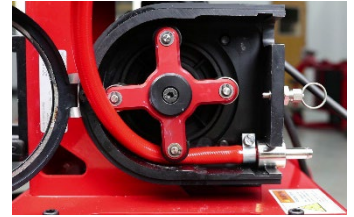
Recommended Coating Brush Diameters (Midi Miller / Super Midi / Maxi Miller)				
Host Pipe Diameter	Front Coating Brush (Straight)	Front Coating Brush (Multiple Bends)	Rear Coating Brush	Distance Between Brushes
DN70 (3")	100mm (4")	125mm (5")	100mm (4")	25-50mm (1"-2")
DN100 (4")	150mm (6")	175mm (7")	150mm (6")	25-50mm (1"-2")
DN125 (5")	175mm (7")	200mm (8")	175mm (7")	25-50mm (1"-2")
DN150 (6")	200mm (8")	225mm (9")	200mm (8")	25-50mm (1"-2")
DN175 (7")	225mm (9")	250mm (10")	225mm (9")	25-50mm (1"-2")
DN200 (8")	250mm (10")	275mm (11")	250mm (10")	25-50mm (1"-2")
DN225 (9")	275mm (11")	300mm (12")	275mm (11")	25-50mm (1"-2")
DN250 (10")	300mm (12")	350mm (14")	300mm (12")	25-50mm (1"-2")
DN300 (12")	350mm (14")	350mm (14")	350mm (14")	25-50mm (1"-2")

### Note:

1. The above configurations depend on pipe layout. It is advisable to do a dry run prior to coating.
2. Brush sizes noted are part number/description as per the catalogue.
3. The brush diameter is always larger than the diameter of the host pipe.

## Setting up the equipment

- **Picote Mini Pump:** Cut the red resin supply hose exactly to 248mm (9¾") or for simplicity use the pre-cut version. Bulk 25m (80') rolls also available.
- **Picote Maxi Pump:** Assemble the pre-cut pump hose and connectors.
- Once the pump hose has been installed, turn on the pump and check that it is working correctly by firstly covering the top hose fitting with your finger. If working correctly you should feel the hose sucking onto your finger. Next place your finger over the bottom hose fitting. If working correctly you should feel air blowing over your finger. Apply a small amount of Silicone Grease to lubricate the pump hose.
- Attach the smaller brush against the sleeve bearing leaving roughly 6mm (¼").
- Slide the larger brush onto the shaft followed by the supplied brush stopper. Bring to the end and tighten both securely. There is no need for a length of casing over the shaft, between the brushes, as this will hinder flexibility around the bends.
- Attach the resin delivery hose 50-75mm (2-3") behind the sleeve bearing with duct tape. Exactly 300mm / 1ft away, secure the delivery hose to the shaft with more tape.
- Attach the camera head 100-200mm (4-8") behind the sleeve bearing. Check your camera screen to ensure that you have full view of the brush circumference.
- Once the brush is in full view on the screen, lightly tape the camera head from the very end all the way to the end of the camera spring.
- Once the camera is secure, insert the brushes into the pipe opening. Push in about 500mm (18") and tape camera, delivery hose and miller cable all together and once more 500mm (18") after that.
- Continue taping every 1 meter (3ft) and pushing into the pipe until the end of the pipe to be coated has been reached.



## Applying the coating

- If the pipework has several bends that are difficult to navigate, or if the line set is difficult to push through the pipe, a special lubricant can be used to reduce friction. The Picote Delivery Hose Lube should be added to a spray bottle so it can be easily applied to the outside of the line set (nylon coating brushes). Lightly coat the line set as it is being pushed into the pipe.
- Prior to mixing the resin, a small amount (5ml) of the Picote Delivery Hose Lube can also be added into the resin cup and pumped through the delivery hose to aid resin delivery to the brush head.
- Once the cup is 1/3 full, begin priming the delivery hose. Set the variable speed dial on the pump to full speed forward and engage the pump to begin priming the delivery hose.
- Closely watch the CCTV screen for the resin flow and move the camera back and forth if necessary to check for resin flow. Once resin can be seen flowing stop the pump and turn the variable speed dial down to the appropriate speed for the pipe diameter.
- Start the coating from the far end. Pump out resin and brush it on. Pay close attention to the flow of resin and lay a consistent bead into the pipe. Also watch the bead of the resin around the edge of the brush. Pull slowly and evenly for 1m (3ft).
- Stop the pump and brushes rotating and push back into the pipe to visually verify the coating has covered all required areas smoothly and evenly. Repeat this process overlapping 1m (3 ft) sections until the pipe is fully coated.
- Always have the brushes rotating when pulling the shaft along the inside of the pipe.



- Carefully inspect that the resin covers the pipe walls. Be especially careful around bends, open joints, cracks and holes.
- Once the first coat is complete, wait 3 hours or until dry to touch before applying the next coat. Cure time can be reduced by using the Picote Heater.
- If the next coat is applied after 12 hours, the original coat will need to be abraded with a Smart Cutter™ and grinding panels to make sure that the layers bond well, remembering to remove the dust prior to applying the next coat using the nylon cleaning brushes.
- Alternate the colour of the resin between coats. This allows for a clear visual verification, during application, that resin has been evenly distributed throughout the pipe.

Pipe diameter	Number of Coats (Corrosion Resistance)	Number of Coats (Semi Structural)
DN32 (1¼")	2	2
DN40 (1½")	2	2
DN50 (2")	2	2
DN70 (3")	2	2
DN100 (4")	2	3 to 4
DN150 (6")	2 to 3	4 to 5
DN200 (8")	3 to 4	5 to 6
DN225 (9")	4 to 5	6 to 7
DN250 (10")	4 to 5	7 to 8
DN300 (12")	5 to 6	8 to 9

- A minimum of 4 coats need to be applied when the pipe is going to be cleaned using High Pressure Water Jetting.
- Maximum Water Jetting Pressure is 2600 PSI or 180 Bar.
- A minimum of 3 coats need for abrasion resistance.

TYPES OF LUBRICANT	
	
Lubricant for the pump rollers	Picote Delivery Hose Lubricant
	<p>Further assistance or information visit the Picote Institute at:</p> <p><a href="http://www.picoteinstitute.com">www.picoteinstitute.com</a></p>
Picote Miller Flexible Shaft Lubricant	