BUTYLEN Tape Systems

Installation must be done according to local regulations and usual safety precautions. Follow safety instructions given on **BUTYLEN-Primer**.

Application temperature

Pipe surface	min. +3°C (+5.4 °F) above dew point up to +85°C (+185°F)
Ambient	-40° up to +60°C (–40° up to +140°F)
BUTYLEN-HT Primer	-10° up to +40°C (+14° up to +104°F)
BUTYLEN-MT25 Primer	-10° up to +50°C (+14° up to +122°F)
BUTYLEN Tape	-10° up to +50°C (+14° up to +122°F)

In order to avoid wrinkling due to thermal elongation of the PE carrier film, the temperature difference between pipe surface (before and after tape application) and tape roll should be max. +30 °C (+54 °F).
Under prolonged exposure to sunlight, the finished wrapping should be covered with a suitable material (e.g. **DEPROTEC®-DRM PP** Rockshield).

Alternatively a white outerwrap with UV stabilizer such as **BUTYLEN-R20 HT** should preferably be used in case of two tape systems.

Steel surface condition

Cleanliness (ISO 8501-1)	min. ST2
Roughness (ISO 8503-1)	20 - 100 µm

1. Cleaning

- The areas to be coated (steel surface and adjacent factory coating) have to be clean, dry, and free from grease and dust.
- All contamination which might act as a release agent (e.g. grease, oil, varnishes, temporary protecting paints, coupling agents) have to be completely removed prior to tape application. Use suitable solvent if necessary.

2. Drying

- Humidity and ice have to be removed by drying with a torch flame.

3. Surface Preparation

- Cleaning of steel surface can be done by wire brushing or abrasive blast cleaning.
- Any existing scale has to be removed by abrasive blast cleaning.

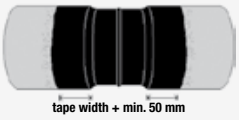
4. Transition to Factory Coating

- Transitions to adjacent factory coating should be bevelled by use of a round shaped rasp (recommended angle: app. 30°).
  Remove grinding dust.

5. Preparation of Factory Coating

- Adjacent factory coating has to be cleaned in a width of app. 150 mm. Use suitable solvent, if necessary.
- Cleaned factory coating has to be circumferentially roughened with coarse emery cloth. Remove grinding dust.

6. Priming

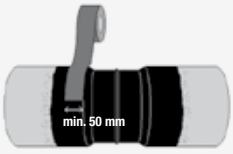


- Thoroughly stir **BUTYLEN-Primer** in original drum until any bottom settlings are dissolved.
- By using a brush or roller apply a thin even coat of primer to the cleaned and dried surface.
- The factory coating has to be primed in a width of "tape width plus min. 50 mm" on each side.
- After use immediately close and seal primer drum. Clean brush or roller with suitable solvent (e.g. white spirit).

7. Priming - Drying

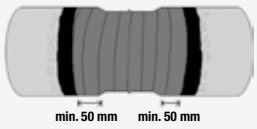
- Let the primer dry until it is tack free.
- The drying time depends on ambient temperature and air movement (approx. 10-30 min.).
- The primed surface should be wrapped latest within 6 h. Otherwise or in case of contamination (e.g. dust) the primer coat has to be renewed.

8. Innerwrap



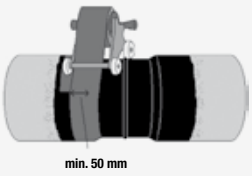
- In case of hand wrapping (tape width max. 50 mm) start with one circumferential wrap before spirally wrapping the tape. (start of wrapping: min. 50 mm on factory coating).
- Spirally wrap tape (e.g. **BUTYLEN** 3-ply tapes with grey side facing the pipe surface) under tension with min. 50% overlap around the pipe.

9. Innerwrap



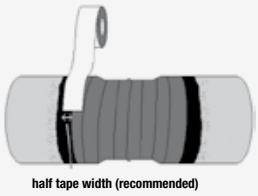
- Tape tension is sufficient, if tape width is narrowed by app. 1% during application.
- Remove interleaving.
- The tape wrapping should cover the full circumference of the adjacent factory coating by a width of min. 50 mm.

10. DEKOMAT® Wrapping



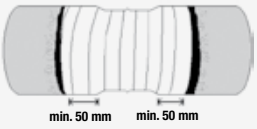
- When using **DEKOMAT®** wrapping devices, wrapping can start in spiral motion instead of one circumferential wrap (inner- and outerwrap).
- Start of wrapping on factory coating: min. 1.5 times of tape width.

11. Outerwrap



- In case of hand wrapping (tape width max. 50 mm) start with one circumferential wrap before spirally wrapping the tape.
- The outerwrap should at least fully cover the innerwrap. It is recommended to start wrapping by covering the innerwrap by ½ of tape width.
- Spirally wrap the outerwrap tape (e.g. **BUTYLEN** 3-ply tapes with grey side facing the pipe surface) under tension with min 50% overlap around the pipe.

12. Outerwrap



- Tape overlap: Min. 50%.
- Tape tension is sufficient, if tape width is narrowed by app. 1% during application.
- Remove interleaving.
- The tape wrapping should cover the full circumference of the adjacent factory coating by a width of min. 50 mm.

Testing

- No wrinkles are allowed in the finished wrapping on visual testing.
- The wrapping has to be tested for freedom from pores with high voltage holiday detector. Test voltage: 5 kV + 5 kV per mm of coating thickness, max. 25 kV.

Recommendations

- It is highly recommended to use **DEKOMAT®** wrapping devices for application of tapes wider than or equal to 50 mm.
- In order to ensure that tapes are applied with sufficient wrapping tension, the tape width should be limited to max. 150 mm.
- The above application instruction can also be transferred to the wrapping of full pipe length or pipe bends.

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