H. Any defects which will or could affect the integrity of the liner shall be repaired at the Contractor's expense in a manner approved by the Engineer.

29.3.9 Spiral Wound Pipe Installation

A. The Contractor shall retain the services of a licensed installer of the manufacturer of the spiral wound liner pipe rehabilitation system to assist the Contractor during preparation and installation of the system to certify that the work has been performed in accordance with the manufacturer's recommendations.

B. The following procedures shall serve as a general installation guide only.The Contractor shall obtain detailed installation instructions and procedures from the manufacturer for the actual installation of the spiral wound liner system. The requirements of ASTM F1741 shall also be satisfied.

i. The section of pipeline to be lined shall have been cleaned, surveyed and repaired to the requirements of this section of the standard specification prior to liner installation.

ii. The liner shall be installed into the drainage line by the use of a winding machine placed at the bottom of the manhole, with the liner being introduced at a diameter of approximately 25mm to 50mm less than the diameter of the drainage pipe to be rehabilitated and then expanded until it comes into intimate contact with the host pipe.

iii. The liner shall be joined by the use of a mechanical locking strip.

The strip shall have the same, or better, mechanical and chemical resistance properties than that of the liner material. The joint shall be continuous and watertight for the full length of the drainage pipeline.

iv. For each length of liner a sample shall be prepared prior to the winding machine being placed into the manhole. A length of pipe shall be formed from the same batch of material to be used in the installation. The length of sample shall be such that three lengths may be cut and tested in accordance with ASTM D2412 for pipe stiffness at 5% deflection and for the properties given in Table 4. The stiffness so measured shall meet, or exceed the stiffness requirements determined by calculation for that section of drainage line or the minimum specifies stiffness whichever is the greater. Any material may be rejected for failure to meet any of the requirements of this specification.