

INSTALLATION AND FABRICATION

PLASTIC PIPE ASSOCIATION

IFPA PE FITTINGS STANDARD

1 Applicable Standard

SANS 4427-3 Part 3: Fittings is the applicable standard and PE fittings shall be manufactured to conform to it.

2 General

Fittings shall be manufactured from pipe that conforms to SANS 4427-2 Part 2: Pipe, the butt fusion machine and equipment shall conform to SANS 1671-1 and the processes to SANS 10268-1. The pressure rating (PN) of the fabricated fitting shall be derived from the PN rating of the pipe used, de-rated by the applicable factors which are determined by the geometry as set out herein for Segmented Bends and Tees.

If there is any deviation from the foregoing, the manufacturer shall be responsible to demonstrate the validity of the derating factor used and the resultant pressure rating (PN) by testing in accordance with SANS 4427-3, Annex B, Table B.1 Performance Requirements.

Special requirements for fittings, such as bead removal, shall be agreed, in writing, between manufacturer and customer.

3 Dimensions

3.1 Segmented Bends

The manufacturer shall provide a complete set of dimensions for the bends, 30°, 60°, 45°, 75° and 90°, plus any other angle required by the customer, that shall conform to SANS 4427-3, Annex B, Figures B.1 and B.2 and Table B.2 Dimensions.

3.2 Swept Bends

The manufacturer shall provide a complete set of dimensions for the bends, 30°, 60°, 45°, 75° and 90°, plus any other angle required by the customer, and shall conform to SANS 4427-3, Annex B, Figure B.3 and Table B.2 Dimensions.

The minimum wall of the finished bend shall conform to SANS 4427-2, Table 2 Dimensions.

3.3 Segmented Tees

The manufacturer shall provide a complete set of dimensions for 30°, 60°, 45°, 75° and 90° tees, plus any other angle required by the customer, and shall conform to SANS 4427-3, Annex B, Figure B.4 and Table B.2 Dimensions.

4. Derating Factors

4.1 Segmented Bends

The derating factor shall conform to the applicable value derived from the cut angle of each segment conforming to SANS 4427-3, Annex B, Figure B.3 Segment Design in Table 1 below. Note, the cut angle (β) shall not be greater than 15°.

Table 1: Segmented Bends – Derating Factors

CUT ANGLE – β	DERATING FACTOR - ζ
$\leq 7.5^\circ$	1.0
$7.5^\circ < \beta \leq 15^\circ$	0.8

4.2 Swept Bends

No derating factor shall be applied on condition the results from testing conforming to SANS 4427, Annex B, Table B.1 prove this.

4.3 Segmented Tees

The derating factor for fabricated tees shall be 0.5.