

# DefaultCatheter

Report Generated: 31 January, 2026

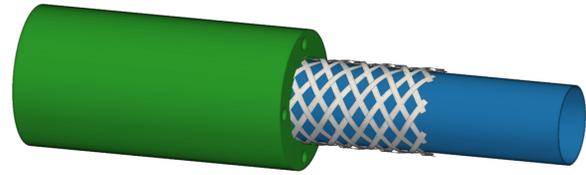
## Catheter Summary

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| Design Mode                    | Fixed Inner Diameter |
|--------------------------------|----------------------|
| Overall Outer Diameter         | 0.109 in             |
| Fixed Inner Diameter (Mandrel) | 0.060 in             |
| Number of Sections             | 3                    |
| Pullwire Arrangement           | 4 wires              |
| Pullwire Offset                | 0.045 in             |
| Pullwire Anchor Section        | 2                    |

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# Section 1: Proximal



## Analysis Results

|                          |                             |
|--------------------------|-----------------------------|
| Outer Diameter           | 0.109 in                    |
| Inner Diameter           | 0.060 in                    |
| Bending Stiffness (EI)   | 0.6151 lbf·in <sup>2</sup>  |
| Torsional Stiffness (GJ) | 0.52692 lbf·in <sup>2</sup> |
| Axial Stiffness (EA)     | 562.4 lbf                   |
| Linear Density           | 0.004 lb/ft                 |
| Kink Radius (Brazier)    | 0.424 in                    |
| Max Moment (Brazier)     | 0.968 lbf·in                |
| Tensile Failure Load     | 95.761 lbf                  |
| Torque at Failure        | 0.807 lbf·in                |
| Burst Pressure           | 2861.011 psi                |
| Crush Pressure           | 64820.344 atm               |

## Laminate Construction

| L | Material              | Reinf. | Thick (in) |
|---|-----------------------|--------|------------|
| 1 | PTFE                  | None   | 0.0010     |
| 2 | PEBAX® 2533 SA 01 MED | Braid  | 0.0040     |
| 3 | PEBAX® 7233 SA 01 MED | None   | 0.0200     |

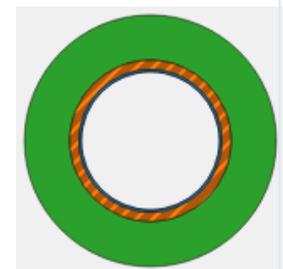


Fig. 1.1: Layer Cross-section

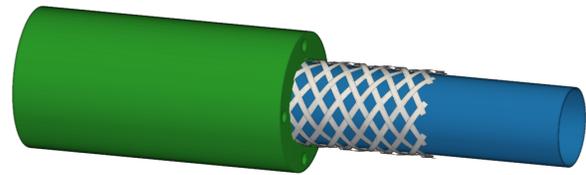
**Layer 2: Braid Setup**

|                        |                             |
|------------------------|-----------------------------|
| <b>Angle</b>           | 57.3°                       |
| <b>Coverage</b>        | 58.6%                       |
| <b>Wire Material</b>   | 304V (1/2 Hard)             |
| <b>Wire Shape</b>      | Flat/Ribbon                 |
| <b>Wire Dimensions</b> | 0.005 x 0.002<br>in (W x T) |
| <b>Carriers</b>        | 16                          |
| <b>Picks Per Inch</b>  | 60.0                        |



L2 Reinforcement

# Section 2: Flexible



## Analysis Results

|                          |                             |
|--------------------------|-----------------------------|
| Outer Diameter           | 0.109 in                    |
| Inner Diameter           | 0.060 in                    |
| Bending Stiffness (EI)   | 0.0463 lbf·in <sup>2</sup>  |
| Torsional Stiffness (GJ) | 0.03633 lbf·in <sup>2</sup> |
| Axial Stiffness (EA)     | 25.9 lbf                    |
| Linear Density           | 0.004 lb/ft                 |
| Kink Radius (Brazier)    | 0.324 in                    |
| Max Moment (Brazier)     | 0.095 lbf·in                |
| Tensile Failure Load     | 80.968 lbf                  |
| Torque at Failure        | 0.661 lbf·in                |
| Burst Pressure           | 2016.498 psi                |
| Crush Pressure           | 60175.362 atm               |

## Laminate Construction

| L | Material              | Reinf. | Thick (in) |
|---|-----------------------|--------|------------|
| 1 | PTFE                  | None   | 0.0010     |
| 2 | PEBAX® 2533 SA 01 MED | Braid  | 0.0040     |
| 3 | PEBAX® 3533 SA 01 MED | None   | 0.0200     |

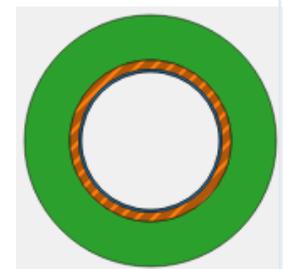


Fig. 2.1: Layer Cross-section

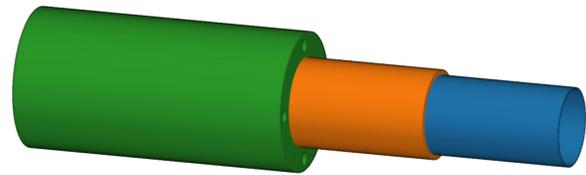
**Layer 2: Braid Setup**

|                        |                             |
|------------------------|-----------------------------|
| <b>Angle</b>           | 57.3°                       |
| <b>Coverage</b>        | 58.6%                       |
| <b>Wire Material</b>   | 304V (1/2 Hard)             |
| <b>Wire Shape</b>      | Flat/Ribbon                 |
| <b>Wire Dimensions</b> | 0.005 x 0.002<br>in (W x T) |
| <b>Carriers</b>        | 16                          |
| <b>Picks Per Inch</b>  | 60.0                        |



L2 Reinforcement

# Section 3: Tip



## Analysis Results

|                          |                             |
|--------------------------|-----------------------------|
| Outer Diameter           | 0.109 in                    |
| Inner Diameter           | 0.060 in                    |
| Bending Stiffness (EI)   | 0.0448 lbf·in <sup>2</sup>  |
| Torsional Stiffness (GJ) | 0.01675 lbf·in <sup>2</sup> |
| Axial Stiffness (EA)     | 24.9 lbf                    |
| Linear Density           | 0.003 lb/ft                 |
| Kink Radius (Brazier)    | 0.745 in                    |
| Max Moment (Brazier)     | 0.040 lbf·in                |
| Tensile Failure Load     | 35.972 lbf                  |
| Torque at Failure        | 0.661 lbf·in                |
| Burst Pressure           | 1951.570 psi                |
| Crush Pressure           | 624.623 atm                 |

### Laminate Construction

| L | Material              | Reinf. | Thick (in) |
|---|-----------------------|--------|------------|
| 1 | PTFE                  | None   | 0.0010     |
| 2 | PEBAX® 2533 SA 01 MED | None   | 0.0040     |
| 3 | PEBAX® 3533 SA 01 MED | None   | 0.0200     |

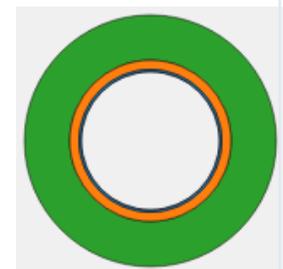


Fig. 3.1: Layer Cross-section

## Appendix: Material Properties

| Material Name            | Polymer Family | Density (g/cm <sup>3</sup> ) | Modulus of Elasticity (MPa) | Poisson's Ratio | Tensile Strength (MPa) |
|--------------------------|----------------|------------------------------|-----------------------------|-----------------|------------------------|
| PEBAX® 2533<br>SA 01 MED | PEBA           | 1.000                        | 12.000                      | 0.450           | 32.000                 |
| PEBAX® 3533<br>SA 01 MED | PEBA           | 1.000                        | 21.000                      | 0.450           | 39.000                 |
| PEBAX® 7233<br>SA 01 MED | PEBA           | 1.010                        | 513.000                     | 0.450           | 56.000                 |
| PTFE                     | PTFE           | 2.160                        | 496.000                     | 0.410           | 27.000                 |
| 304V (1/2 Hard)          | Metal          | 7.920                        | 193000.000                  | 0.290           | 1269.000               |