

# Innovaflex®



## BIOPHARMACEUTICAL PUMP TUBING

A unique, specially formulated thermo-plastic elastomer tubing for the critical needs of the biopharmaceutical applications. Clear, flexible, weldable, sealable and applicable for use in peristaltic pump

USP VI



### Innovaflex®

Innovaflex® complies with USP Class VI standards and is manufactured by Innovapure under strict GMP guideline. It is non-pyrogenic, non-cytotoxic and has excellent resistance to acids and alkalis as well as good performance on peristaltic pump. Unlike other products, Innovaflex is totally free of silicone and amide lubricants, more pure and less extractables. Its special formulation enables much stronger welding strength during aseptic welding process.

### Features

- Long peristaltic pump life
- Free of silicone
- High welding strength
- Low permeation
- Low protein bonding
- Sterilization by EO, Gamma, autoclave
- ISO Class 7 manufacturing
- Full validation studies

### Regulations

- ISO 10993
- USP 87/88 Class VI
- ADCF
- Drug Master File
- Extractables studies

### Applications

- Cell culture media
- Cell fermentation
- Diagnostic equipment
- Pharmaceutical production
- Vaccine production
- Pinch valves
- Sterile filling and dispensing system



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## Innovaflex® inventoried sizes

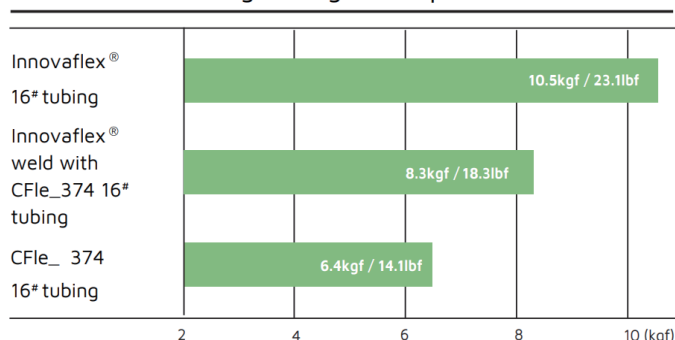
| Model #            | Tube # | I.D   |        | O.D.  |        | Wall thickness |        | Length / Box* |        |
|--------------------|--------|-------|--------|-------|--------|----------------|--------|---------------|--------|
|                    |        | (mm)  | (Inch) | (mm)  | (Inch) | (mm)           | (Inch) | (M)           | (Feet) |
| XP40-202-0159-0476 | 14#    | 1.59  | 1/16   | 4.76  | 3/16   | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-0238-0556 | 19#    | 2.38  | 3/32   | 5.56  | 7/32   | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-0318-0635 | 16#    | 3.18  | 1/8    | 6.35  | 1/4    | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-0318-0794 | 120#   | 3.18  | 1/8    | 7.94  | 5/16   | 2.38           | 3/32   | 15.2          | 50     |
| XP40-202-0476-0794 | 25#    | 4.76  | 3/16   | 7.94  | 5/16   | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-0476-0953 | 15#    | 4.76  | 3/16   | 9.53  | 3/8    | 2.38           | 3/32   | 15.2          | 50     |
| XP40-202-0635-0953 | 17#    | 6.35  | 1/4    | 9.53  | 3/8    | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-0635-1111 | 24#    | 6.35  | 1/4    | 11.11 | 7/16   | 2.38           | 3/32   | 15.2          | 50     |
| XP40-202-0794-1111 | 18#    | 7.94  | 5/16   | 11.11 | 7/16   | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-0794-1270 | 35#    | 7.94  | 5/16   | 12.70 | 1/2    | 2.38           | 3/32   | 15.2          | 50     |
| XP40-202-0953-1270 | 96#    | 9.53  | 3/8    | 12.70 | 1/2    | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-0953-1429 | 36#    | 9.53  | 3/8    | 14.29 | 9/16   | 2.38           | 3/32   | 15.2          | 50     |
| XP40-202-0953-1588 | 73#    | 9.53  | 3/8    | 15.88 | 5/8    | 3.18           | 1/8    | 15.2          | 50     |
| XP40-202-1111-1429 |        | 11.11 | 7/16   | 14.29 | 9/16   | 1.59           | 1/16   | 15.2          | 50     |
| XP40-202-1270-1905 | 82#    | 12.70 | 1/2    | 19.05 | 3/4    | 3.18           | 1/8    | 15.2          | 50     |

\*Other sizes and length can be customized

## Innovaflex® typical properties

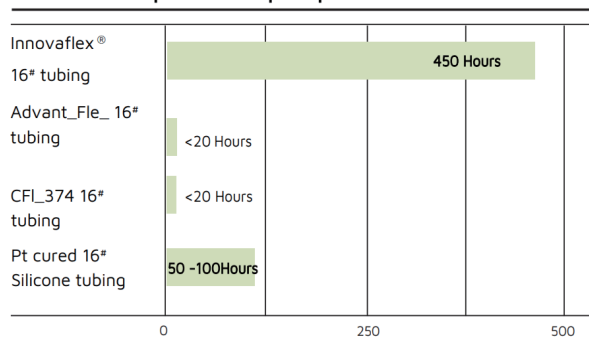
| Physical Properties         | Test Method   | Unit              | Typical Value |
|-----------------------------|---------------|-------------------|---------------|
| Color                       | -             |                   | Translucent   |
| Shore A, 5 sec.             | ISO 868       |                   | 60            |
| Specific gravity            | ISO 2781      | g/cm <sup>3</sup> | 0.89          |
| Tensile strength            | ASTM D 412    | Mpa               | 6.45          |
| Elongation at 100%          | ASTM D 412    | %                 | 620           |
| Compression set, 23C 168Hrs | ASTM D 395    | %                 | 19            |
| Vicat softening point       | ISO 306 (10N) | C                 | 58            |

### Innovaflex® welding strength comparison



Uses 5 standard 16" size tubings, sterilized under 25kGy Gamma radiation, measure tensile strength after tubing welding by using GE STF-IRc welder.

### Innovaflex® peristaltic pump life



Tests above were conducted by using 16" standard size peristaltic pump tubings, under conditions of 1.5Bar pump head pressure, zero back pressure, water medium and room temperature. A 4 rollers peristaltic pump was used under 600rpm until tube leakage or 30% lower flow rate was observed.

Innovaflex® chemical compatibility chart, regulations and validation details are available on [www.innovapure.com](http://www.innovapure.com) or call Innovapure sales representative.

Distributed by

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Important

It is the user's responsibility to ensure the suitability and safety of Suzhou Innovapure Co., Ltd. products for all intended uses. Laboratory and clinical tests must be conducted in accordance with applicable regulatory requirements in order to determine the safety and effectiveness for use of tubing in any particular application.