

# Specification Sheet

Highly Cross-linked UHMWPE Rod  
(Purity: 99.9%, Diameter: 30mm, Length: 500mm)  
Stock No: NHS01-000016, CAS: 9002-88-4

<b>Product</b>	:	<b>XLPE Rod</b>
Stock No	:	NHS01-000016
CAS	:	9002-88-4
Purity	:	99.9%
Grade	:	Medical Grade Cross-linked
Diameter	:	30mm
Length	:	500mm
<b>Irradiation Dosage</b>	:	<b>75kGy</b>
Molecular Formula	:	(CH <sub>2</sub> C <sub>52</sub> ) <sub>n</sub>
Molecular weight	:	5.5 × 10 <sup>6</sup> (g/mol)
Form	:	Solid
Colour	:	White
Melting Point	:	135°C
Density	:	934 Kg/m <sup>3</sup>
Tensile Strength at Yield	:	≥20Mpa
Ultimate Tensile Strength	:	≥35Mpa
Elongation at Break	:	≥250Mpa
IZOD Impact Strength	:	≥55Mpa
Tensile Strength	:	≥20Mpa
Swell Ratio	:	<4.0
Crystallinity	:	>45
Application	:	Implant
<b>Main Inspect Verifier</b>	:	<b>Manager QC</b>
<b>Date of Print</b>	:	<b>May 2022</b>
<b>Version</b>	:	<b>1</b>

**Note:** Product Specification are subject to amendment and may change over time

**Annealing:** Annealed as per ASTM F2565-21 Standard

**Gamma Irradiation:** As per ASTM F2565-21 Standard



Tested By (QC Dept)

#### Notes

NANOSHEL CONSIDERS THE BATCH TESTING TO BE THE LAST STEP IN THE MANUFACTURING PROCESS AS EVERY MANUFACTURED MUST BE TESTED BEFORE RELEASED.

NANOSHEL HEALTHCARE VERIFIES THAT THE MANUFACTURING PROCESS OF ANNEALING AND TESTING WILL BE COMPLETED WITHIN 30 DAYS.

MATERIAL SUPPLIED AGAINST THIS CERTIFICATE HAS BEEN ANNEALED IN ACCORDANCE WITH NANOSHEL HEALTHCARE QUALITY PROCEDURES SECTION WI OMU 002 AND ULTRASONICALLY INSPECTED IN ACCORDANCE WITH NANOSHEL HEALTHCARE QUALITY PROCEDURES WI EXT 08 & WI PRO 031, ZERO UNCONSOLIDATED REGIONS DETECTED, NO NON FUSED FLAKES (LIGHT PATCHES) OR PARTICLES >300 WERE FOUND ON THE TEST.

ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE IN POWDER FORM WITH AN AVERAGE MOLECULAR WEIGHT ABOUT 5.5 MILLION G/MOL. THE EXTREMELY HIGH MOLECULAR WEIGHT YIELDS SEVERAL UNIQUE PROPERTIES INCLUDING HIGH ABRASION RESISTANCE, IMPACT STRENGTH AND LOW COEFFICIENT OF FRICTION.

The certificate does not affect the obligation to perform an incoming good inspection. This certificates is of semi-finished material.

Remark: The values presented on the above are typical laboratory average, not to be construed as specifications and may vary within moderate ranges. The applicability or the accuracy of this information or the suitability of our products cannot be guaranteed because the conditions of use on the part or our uses are beyond our control. For the instructions of handling materials including potential hazards, we recommend to comply with specific Material Safety Data Sheet (MSDS), which can be provided by your technical contact person.

\*Preliminary values are subjected to change in the interest of product development without notification.

Visit us: [www.nanoshel.com](http://www.nanoshel.com)

**Works:** I Hub, Ground Floor, AMTZ Campus, Pragati Maidan, VM Steel Project SO, Visakhapatnam – 530031 AP (INDIA)

**Regd office:** Plot #: 123, Industrial Area (Ph-2), Panchkula -134113 HR (INDIA)

**Tel:** +91-9815 85 9815, 9815 50 9815 | ✉ [sales@nanoshel.com](mailto:sales@nanoshel.com), [nanoshelhealthcare@gmail.com](mailto:nanoshelhealthcare@gmail.com)