

# Eltex® TUB 433-NA00

## Product Technical Information

Polypropylene – Impact Copolymer

Eltex® TUB 433-NA00 is a low melt flow rate, long term heat stabilized, high impact copolymer for pipe, blow moulding and sheet extrusion applications. It offers a very good balance stiffness - impact strength (even at low temperature) and excellent processability.

## Applications

- Non-pressure pipes and fittings (for drainage and sewerage, soil & waste,...)
- Sheet extrusion
- Blow moulding

## Benefits and Features

- High impact resistance
- Good rigidity
- Excellent melt strength
- Long term heat stability
- Excellent processability (for solid and structured wall pipes extrusion)

| Properties                                     |              | Test Methods | Values | Units             |
|--|--------------|--------------|--------|-------------------|
| <b>Physical</b>                                |              |              |        |                   |
| Density  |              | ISO 1183     | 905    | kg/m <sup>3</sup> |
| Melt Flow Rate                                 | 230°C/2.16kg | ISO 1133     | 0.3    | g/10min           |
| <b>Mechanical</b>                              |              |              |        |                   |
| Flexural Modulus <sup>(1)</sup>                | @ 23°C       | ISO 178      | 1500   | MPa               |
| Calculated E-Modulus <sup>(2)</sup>            |              |              | 1500   | MPa               |
| Tensile Test (23°C, 50 mm/min) <sup>(3)</sup>  |              |              |        |                   |
| Tensile Stress                                 | @Yield       | ISO 527-1,-2 | 28     | MPa               |
| Tensile Strain                                 | @Yield       | ISO 527-1,-2 | 9      | %                 |
| Charpy Impact Strength, Notched <sup>(3)</sup> |              |              |        |                   |
|  | @ 23°C       | ISO 179/1eA  | > 50   | kJ/m <sup>2</sup> |
|  | @ 0°C        | ISO 179/1eA  | 18     | kJ/m <sup>2</sup> |
|  | @ -20°C      | ISO 179/1eA  | 7      | kJ/m <sup>2</sup> |

<sup>(1)</sup> Measured on 4 mm thick compression moulded specimens (cooling rate = -15°C/min)

<sup>(2)</sup> Calculated from ring stiffness measurements carried out on 110 mm solid wall pipes

<sup>(3)</sup> Measured on 4 mm thick injection moulded specimens

# Eltex® TUB 433-NA00

## Thermal

|                                |           |             |      |     |
|--------------------------------|-----------|-------------|------|-----|
| Melting Point                  |           | ASTM D 3417 | 165  | °C  |
| Vicat Softening Temperature    | @10 N     | ISO 306/A   | 155  | °C  |
| HDT                            | @0.45 MPa | ISO 75/B    | 95   | °C  |
| Oxidation Induction Time (OIT) | @200°C    | EN 728      | > 30 | min |

- Data should not be used for specification work

## Regulatory Information

The product and uses described herein may require global product registrations and notifications for chemical inventory listings, or for use in food contact or medical devices. For further information, send an email to [psnohreg@ineos.com](mailto:psnohreg@ineos.com). Unless specifically indicated, the products mentioned herein are not suitable for applications in the medical or pharmaceutical sector.

## Health and Safety Information

The product described herein may require precautions in handling. The available product health and safety information for this material is contained in the Material Safety Data Sheet (MSDS) that may be obtained from the website [www.ineospolyolefins.com](http://www.ineospolyolefins.com). Before using any material, a customer is advised to consult the MSDS for the product under consideration for use.

## Exclusion of Liability

Although INEOS POLYOLEFINS endeavours to ensure that all information and advice relating to our materials or other materials howsoever provided to you by INEOS POLYOLEFINS is accurate and up to date, no representation or warranty, express or implied is made by INEOS POLYOLEFINS as to its accuracy or completeness. All such information and advice is provided in good faith and INEOS POLYOLEFINS is not, to the maximum extent permitted by law, liable for any action you may take as a result of relying on such information or advice or for any loss or damage, including any consequential loss, suffered by you as a result of taking such action.

In addition data and numerical results howsoever provided to you by INEOS POLYOLEFINS are given in good faith and are general in nature. Data and numerical results are not and shall not be regarded as specifications and as such INEOS POLYOLEFINS is not, to the maximum extent permitted by law, liable for any action that you take as a result of relying on such data and results or for any loss or damage, including any consequential loss, suffered by you as a result of taking such action.

It remains at all times your responsibility to ensure that INEOS POLYOLEFINS materials are suitable for the particular purpose intended and INEOS POLYOLEFINS shall not be responsible for any loss or damage caused by misuse of INEOS POLYOLEFINS products. To the maximum extent permitted by law, INEOS POLYOLEFINS accepts no liability whatsoever arising out of the application, adaptation or processing of the products described herein, the use of other materials in lieu of INEOS POLYOLEFINS materials or the use of INEOS POLYOLEFINS materials in conjunction with such other materials.

September, 2008

Published by  
**INEOS Polyolefins**