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|  | <b>TYPICAL DATA SHEET*</b>                | ISSUE DATE  | 16/June/2020 |
|   | <b>GENERAL PURPOSE POLYSTYRENE (GPPS)</b> | <a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>                                    |              |
|   | <b>GPPS1160</b>                           | IRAN/TABRIZ/TABRIZ PETROCHEMICAL<br>COMPANY/P.O.BOX:51745-354/TEL:+984134282612 |              |

GPPS1160 is a high heat resistance and molecular weight crystal polystyrene for extrusion and bi oriented polystyrene (OPS) industry. It is particularly useful in the production of thick sheet by direct inject gassing, where it gives expanded sheets with high mechanical properties. GPPS1160 can also be used in dilution with HIPS7240 for extrusion of sheet for thermoforming. This grade has food contact approval

Applications: shower cabinets, lighting thin films, insulation board, foam sheet of fruits trays, meat trays, egg boxes.


| PROPERTY                                     | UNIT    | TEST METHOD                            | TYPICAL VALUE |
|--|---------|--|---------------|
| <b>MELT FLOW INDEX(200°C-5KG)</b>            | g/10min | ASTM D-1238                            | 2.5           |
| <b>STYRENE RESIDUAL MONOMER</b>              | PPM     | CLG LABPSG004<br>(ATOFINA TEST METHOD) | <500          |
| <b>VICAT SOFTENING POINT ( 50 °C/hr 1kg)</b> | °C      | ASTM D-1525                            | 105           |
| <b>ROCKWELL HARDNESS</b>                     | -       | ISO2039-2                              | SCALE/L70     |
| <b>TENSILE STRESS AT BREAK</b>               | MPA     | ISO527-2                               | 48            |
| <b>ELONGATION AT BREAK</b>                   | %       | ISO527-2                               | 3             |
| <b>TENSILE MODULUS</b>                       | MPA     | ISO527-2                               | 3200          |

\*All above mentioned data are typical values and not to be construed as real specifications. Users should confirm results by their own tests. For more information about guaranteed items, please refer to S.S.S. (Standard Sales Specifications). Density and shrinkage of this grade are approximately around 1.04 kg/lit & (0.4-0.7) % (ASTM D-955) respectively. All test s are carried out at 23°C, unless otherwise stated. If in grade reference the fourth digit is "1"(1161), indicates an external lubricants is included. If the injection molding products quality is affected by moisture, granules of GPPS could be dried at 70°C for 2-4 hours.

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|  | <b>STANDARD SALES SPECIFICATIONS<br/>(GUARANTEED ITEMS)*</b> | <b>ISSUE DATE</b>   | <b>June-2020</b> |
|   | <b>GENERAL PURPOSE POLYSTYRENE<br/>(GPPS)</b>                | <a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>                                    |                  |
|   | <b>GPPS1160</b>  | IRAN/TABRIZ/TABRIZ PETROCHEMICAL<br>COMPANY/P.O.BOX:51745-354/TEL:+984134282612 |                  |

| PROPERTY                                 | UNIT    | TEST METHOD     | SPECIFICATION RANGE |
|--|---------|-----------------|---------------------|
| MELT FLOW INDEX<br>(200 °C - 5KG)        | g/10min | ASTM D-1238     | 1.8-3.2             |
| VICAT SOFTENING POINT<br>( 50 °C/hr 1kg) | °C      | ASTM D-1525     | MIN 101             |
| RESIDUAL MONOMER                         | PPM     | ATOCHEM PSG-004 | MAX 500             |

\*FOR MORE INFORMATION PLEASE CALL QUALITY ASSURANCE DEPARTMENT AT ABOVE ADDRESS.

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|   | <b>GPPS1460</b>                               | IRAN/TABRIZ/TABRIZ PETROCHEMICAL<br>COMPANY/P.O.BOX:51745-354/TEL:+984134282612 |              |

GPPS1460 is a high heat resistance and molecular weight crystal polystyrene for extrusion and thick walled injection molding application. It is particularly useful in the production of thick sheet by direct inject gassing, where it gives expanded sheets with high mechanical properties. This grade has food contact approval.  
Applications: insulation board (xps), foam sheet of food & fruits trays.

| PROPERTY                                     | UNIT    | TEST METHOD                            | TYPICAL VALUE |
|--|---------|--|---------------|
| <b>MELT FLOW INDEX(200°C-5KG)</b>            | g/10min | ASTM D-1238                            | 6.5           |
| <b>STYRENE RESIDUAL MONOMER</b>              | PPM     | CLG LABPSG004<br>(ATOFINA TEST METHOD) | <500          |
| <b>VICAT SOFTENING POINT ( 50 °C/hr 1kg)</b> | °C      | ASTM D-1525                            | 103           |
| <b>TENSILE STRESS AT BREAK</b>               | MPA     | ISO527-2                               | 48            |
| <b>ELONGATION AT BREAK</b>                   | %       | ISO527-2                               | 3             |
| <b>TENSILE MODULUS</b>                       | MPA     | ISO527-2                               | 3200          |


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|   | <b>GENERAL PURPOSE POLYSTYRENE<br/>(GPPS)</b>                | <a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>                                    |                  |
|   | <b>GPPS1460</b>  | IRAN/TABRIZ/TABRIZ PETROCHEMICAL<br>COMPANY/P.O.BOX:51745-354/TEL:+984134282612 |                  |

| PROPERTY                                | UNIT    | TEST METHOD     | SPECIFICATION RANGE |
|---|---------|-----------------|---------------------|
| MELT FLOW INDEX<br>(200 °C - 5KG)       | g/10min | ASTM D-1238     | 5-7.5               |
| VICAT SOFTENING POINT<br>(50 °C/hr 1kg) | °C      | ASTM D-1525     | MIN 101             |
| RESIDUAL MONOMER                        | PPM     | ATOCHEM PSG-004 | MAX 500             |

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TABRIZ PETROCHEMICAL COMPANY

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|   | <b>GENERAL PURPOSE POLYSTYRENE (GPPS)</b> | <a href="http://WWW.TPCO.IR">WWW.TPCO.IR</a>                                    |              |
|   | <b>GPPS1540</b>                           | IRAN/TABRIZ/TABRIZ PETROCHEMICAL<br>COMPANY/P.O.BOX:51745-354/TEL:+984134282612 |              |

GPPS1540 is easy flowing crystal polystyrene designed for extrusion or injection applications. It improves extruder output and thermoforming cycle time when mixed with a high impact polystyrene such as HIPS7240. It is particularly suitable for glossy-layer co extrusion. This grade has food contact approval.

Applications: packaging articles, Petri dishes, office equipments, pen barrels, crisper boxes for refrigerators, cups, food containers gloss layer co extrusion and anionic styrene butadiene copolymer dilution.

| PROPERTY                                     | UNIT    | TEST METHOD                            | TYPICAL VALUE |
|--|---------|--|---------------|
| <b>MELT FLOW INDEX(200°C-5KG)</b>            | g/10min | ASTM D-1238                            | 11            |
| <b>STYRENE RESIDUAL MONOMER</b>              | PPM     | CLG LABPSG004<br>(ATOFINA TEST METHOD) | <500          |
| <b>VICAT SOFTENING POINT ( 50 °C/hr 1kg)</b> | °C      | ASTM D-1525                            | 91            |
| <b>ROCKWELL HARDNESS</b>                     | -       | ISO2039-2                              | L SCALE/ 70   |
| <b>TENSILE STRENGTH AT BREAK</b>             | MPA     | ISO527-2                               | 42            |
| <b>ELONGATION AT BREAK</b>                   | %       | ISO527-2                               | 2             |
| <b>TENSILE MODULUS</b>                       | MPA     | ISO527-2                               | 3100          |

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|   | <b>GPPS1540</b>  | IRAN/TABRIZ/TABRIZ PETROCHEMICAL<br>COMPANY/P.O.BOX:51745-354/TEL:+984134282612 |                  |

| PROPERTY                                | UNIT    | TEST METHOD      | SPECIFICATION RANGE |
|---|---------|------------------|---------------------|
| MELT FLOW INDEX<br>(200 °C - 5KG)       | g/10min | ASTM D-1238      | 9-13                |
| VICAT SOFTENING POINT<br>(50 °C/hr 1kg) | °C      | ASTM D-1525      | MIN 89.5            |
| RESIDUAL MONOMER                        | PPM     | ATO CHEM PSG-004 | MAX 500             |

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