



# SABIC® HDPE CC453G

## HIGH DENSITY POLYETHYLENE

### DESCRIPTION

SABIC® HDPE CC453G offers a good combination of stiffness, impact resistance, ESCR and organoleptic properties. The typical application of this grade is mainly injection molding and compression molding of caps for still water, slightly carbonated or pressurized drinks, juices or any other non-sparking drinks.

The product is not intended for and must not be used in any pharmaceutical/medical applications.

### TYPICAL PROPERTY VALUES

| PROPERTIES                                            | TYPICAL VALUES | UNITS  | TEST METHODS |
|-------------------------------------------------------|----------------|--------|--------------|
| <b>POLYMER PROPERTIES</b>                             |                |        |              |
| <b>Melt Flow Rate (MFR)</b>                           |                |        |              |
| at 190 °C and 2.16 kg                                 | 4.0            | dg/min | ISO 1133     |
| at 190 °C and 5 kg                                    | 10.5           | dg/min | ISO 1133     |
| <b>Density</b> <sup>(1)</sup>                         | 953            | kg/m³  | ISO 1183     |
| <b>MECHANICAL PROPERTIES</b> <sup>(1) (2)</sup>       |                |        |              |
| <b>Tensile test</b> <sup>(3) (4)</sup>                |                |        |              |
| stress at yield                                       | 26             | MPa    | ISO 527-2    |
| stress at break                                       | 31             | MPa    | ISO 527-2    |
| strain at break                                       | 200            | %      | ISO 527-2    |
| tensile modulus                                       | 1100           | MPa    | ISO 527-2    |
| <b>Flexural test</b>                                  |                |        |              |
| Flexural modulus                                      | 1200           | MPa    | ISO 178      |
| Flexural strength                                     | 26             | MPa    | ISO 178      |
| <b>Izod impact notched</b>                            |                |        |              |
| at 23 °C                                              | 5              | kJ/m²  | ISO 180/A    |
| <b>Hardness Shore D</b>                               | 61             | -      | ISO 868      |
| <b>ESCR on Caps</b> <sup>(5)</sup>                    | 60             | h      | SABIC method |
| <b>THERMAL PROPERTIES</b>                             |                |        |              |
| <b>Heat deflection temperature</b> <sup>(1) (2)</sup> |                |        |              |
| at 0.45 MPa (HDT/B)                                   | 81             | °C     | ISO 75-2     |
| <b>Vicat Softening Temperature</b> <sup>(1) (2)</sup> |                |        |              |
| at 10 N (VST/A)                                       | 124            | °C     | ISO 306      |
| <b>DSC test</b>                                       |                |        |              |
| melting point                                         | 132            | °C     | ISO 11357-3  |
| enthalpy change                                       | 203            | J/g    | ISO 11357-3  |
| <b>C&amp;C PROPERTIES</b>                             |                |        |              |
| <b>Organoleptic properties</b>                        | approved       | -      | SABIC method |

(1) Compression moulding of test specimen according to ISO 1872-2

(2) Conditioning of test specimen: temp. 23 °C, relative humidity 50 %, 24 hours

(3) Test specimen according to ISO 527-2 type 1BA, thickness 2 mm

(4) Speed of testing: 50 mm/min

(5) Determined in 10% Igepal CO-630 at 40 °C, 6 bar internal water pressure, thickness 1 mm