RAPID PROTOTYPING RESINS

# SYNTHENE PR7 SERIES NEW

## INNOVATION AND QUALITY IN VACUUM CASTING


**PR700, PR777, PR740 & PR752**

**A NEW LINE OF PRODUCTS GATHERING PERFORMANCE & SIMPLICITY**

- Based on the technological assets of PR700
- Declined in versatile rigidities & colourabilities
- More and more ease for the user

SYNTHENE IS A COMPANY CERTIFIED BY

ISO 9001 BUREAU VERITAS Certification

SYNTHENE 2017-09-14 001 EN

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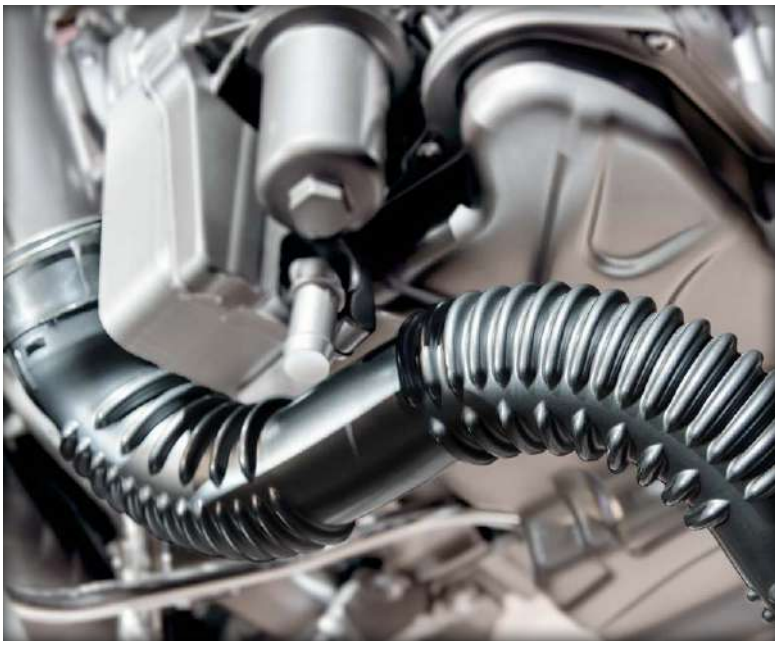


### THE BEST-SELLER PR700

» This resin is SYNTHENE's classic and worldwide best-seller

» This naturally black **counter type of ABS** is ideal for many automotive jobs

» Silicone's best friend : its exceptional non-aggressiveness enables a great number of castings in the same mould

### THE HEAT-RESISTANT PR752

» The best of the range regarding thermal resistance with a 150 °C HDT

» This property, associated with a good colourability makes it a unique material

» Caring about the user's comfort, the PR752 has been developed with an odour-masking agent

» It is a good **counter type of ABS-HT & PEEK**

### THE SEMI-FLEXIBLE PR777

» This material completes the range with an intermediary rigidity (modulus: 1000 MPa), making it a nice **counter type of HDPE and PP**

» Strong material suitable for mechanically stressed parts like clips

» Its 1:1 mixing ratio, long pot-life, and short demoulding time establish a winning combination

### THE FLEXIBLE PR740

» In accordance with REACH 2017, the PR740 offers a mercury-free alternative to PR891

» Important improvements have also been done for more and more simplicity : better colourability, better homogeneity, better mixing ratio

» Can be used as a **simulation of HDPE and PP** (car bumpers, living hinges etc.)

### A SINGLE ISO COMPONENT FOR FOUR RESINS

» The common technology of the PR7 SERIES is based on the PR700 isocyanate that is also used for PR752, PR777 and PR740

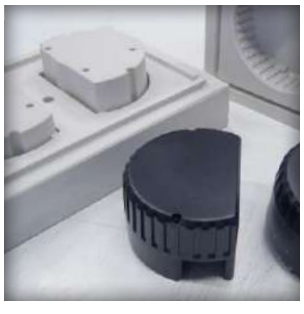
» For that reason, all those resins share PR700's low-aggressiveness to silicone moulds

» They also offer an easier storage as they benefit from a long shelf-life of 18 months and a common single component

1 The exact data are available in our TDS. The thermal and mechanical properties have been tested under specific conditions of curing and post-curing.

2 Silicone mould life : according to our experience, depending on the mould geometry, surface, demoulding time, kind of silicone, etc.

3 Under UV action, the colour tends to darken.

## TECHNICAL INFORMATION [1]

| | | | PR 740 | PR 777 | PR 700 | PR 752 |
|---|---|---|---|---|---|---|
| **MATERIAL PROPERTIES** | | | | | | |
| Hardness | (Shore D) | ISO 868-2003 | 70 | 75 | 87 | 87 |
| Counter type of | | | HDPE/ PP | rigid HDPE/ PP | ABS | ABS/ PEEK |
| Mix viscosity | (mPa·s) | | 1000 | 715 | 600 | 1000 |
| Glass transition Temperature (Tg) | (°C) | ASTM D 4065: 2001 | | >130 | 137 | |
| Heat Deflection Temperature (HDT) | (°C) | ISO 75 Ae: 2001 | 96 | 110 | 130 | 150 |
| Flexural modulus | (MPa) | ISO 178: 2001 | 590 | 930 | 2300 | 2200 |
| Maximal flexural strength | (MPa) | ISO 178: 2001 | 25 | 36 | 80 | 96 |
| Tensile modulus | (MPa) | ISO 527: 1993 | 650 | 1000 | 1800 | 2000 |
| Maximal tensile strength | (MPa) | ISO 527: 1993 | >20 | 32 | | 75 |
| Elongation at break | (%) | ISO 527: 1993 | >50 | 35 | 13 | 5 |
| Tensile strength at break | (MPa) | ISO 527: 1993 | | 32 | 60 | 75 |
| **APPLICATION DATA** | | | | | | |
| Mixing ratio | (poly/ iso) | | 120:100 | 100:100 | 80:100 | 60:100 |
| Pot-Life | (25 °C/ min) | | 7 – 8 | 10 | 6 – 7 | 6 – 8 |
| Demoulding time | (70 °C/ min) | | 40 | 45 – 60 | 45 | 50 |
| Mold life approx. [2] | (silicone/ unit) | | 30 – 50 | 30 – 50 | 30 – 60 | 30 – 50 |
| **MISCELLANEOUS** | | | | | | |
| Colourability [3] | | | | | | |
| Material's natural colour | | | transp. amber | white-beige | black | transp. amber |
| Shelf-life | (months) | | 18 | 18 | 18 | 18 |
| Remarks | | | replacement for PR891 | new interme-diary rigidity | general automotive use | improved PR751, now colourable |

## IN ACCORDANCE WITH

| | |
|---|---|
| REACH (SVHC list in force) | |
| RoHS | 2011/ 65/ UE |
| End-of-life vehicle directive | 2000/ 53/ EC |
| Waste Electrical and Electronic Equipment Directive | 2002/ 96/ EC |
| 2000/11/EC Directive | 2000/ 11/ EC |
| Recycling compliance | IMDS (International Material Data System) |

## RAPID PROTOTYPING RANGE

The PR7 Series is SYNTHENE's best technology for Vacuum Casting most demanding jobs. SYNTHENE also offers you a complete range of rapid prototyping resins. This goes from classic **'all-round use' ABS-like** materials, **UV-stable water-clear resins** to any hardness of **elastomers.**

## ABOUT SYNTHENE

The innovative chemical company, located in France, was founded in 1958. SYNTHENE provides specific formulation and high quality industrial solutions. SYNTHENE places a particular emphasis on offering high-performance products, with cautiously selected raw materials from trustworthy manufacturers.

All SYNTHENE Prototyping resins meet the current requirements of REACH and SVHC.

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