

Aliphatic  
PolyKetone  
Compounds  
**Date: June 2016**

# Duromer Products Technical News

---

*Aliphatic PolyKetone  
or Poketone™ (as  
branded by Hyosung)  
is not a new polymer.  
Its properties and  
performance are well  
understood and  
documented.*

Duromer Products is a specialist compounder of engineering and polyolefin grade compounds for Injection Moulding, Blow Moulding and Profile Extrusion.

One of Duromer's latest developments concerns a range of unique compounds based on Hyosung's Poketone™ which is a rebirth of the famed Shell engineering polymer Carilon. Duromer manufactures these compounds under the trade name Durateck PK.

Durateck PK compounds are particularly of interest in applications that currently require the use of more exotic polymers such as PPS, PSU and PEEK. In addition, Durateck PK compounds are at home where more common polymers like Nylon or Acetal may struggle due to environmental considerations such as high moisture, chemical attack and applications where acoustic or wear issues are of concern.

## **So what is PolyKetone?**

PolyKetone was originally developed by Shell in the Late 90's under the well-known brand name of Carilon. They later announced their intention to discontinue its production in Feb 2000 as part of a companywide divestment of chemical assets. Based on Carbon Monoxide, Ethylene and Propylene, PolyKetone is known as a Ter-Polymer and has the side benefit of being a potential carbon monoxide consumer to help the environment.

PolyKetone's unique physical properties and performance characteristics make it a great option for applications requiring dimensional stability, excellent impact in unfilled and glass filled compounds, acoustic & wear properties, chemical and thermal resistance along with an easy ability to be flame retarded.

Duromer is able to uniquely tailor our Durateck PK compounds to your specific requirements including glass reinforcement, impact modification, flame retardant, thermal and electrical conductivity, low coefficient of friction and enhanced wear properties. We are also able to offer either fully compounded colour solutions or a Masterbatch from our sister company DuroColour.

Durateck PK compounds have excellent chemical resistivity to a broad range of chemical substances including resistance to hydrocarbons, acid, base and many other commonly troublesome solvents.

In addition to excellent chemical resistance, Durateck PK compounds also display excellent resistance to thermally challenging environments. With a melting point of 223°C and a HDT at high load of 218°C for glass filled compounds, you will find it is right at home in applications where you may have had to consider a more exotic polymer in the past.

Some examples of applications where Durateck PK are currently being used:

Clockwise from top left: Gears, hydraulic seals, brush cutter head and pipe fitting cap.




---

***Excellent for applications requiring:***

***Impact strength, wear resistance, gas barrier, chemical resistance, low creep, long flow path, hydrolysis resistance & dimensional stability***

---

Photos courtesy of Hyosung Corporation

 **HYOSUNG CORPORATION**

Durateck PK compounds can be used to replace many other engineering polymer options such as PPS, PPSU, PEEK, PPA, Acetal POM, Nylon and PBT.

You can speak to any one of Duromer's technical sales people to discuss your application and how Durateck PK compounds can add value to your product.

## Technical Data

Technical data is available on request. Please talk to your Duromer Products Account Manager or call the office. We are waiting to hear from you and discuss how Durateck PK compounds can help.

### *FAQ's*

**Q. Isn't PolyKetone tricky to process?**

A. In truth, if you control the variables (moisture and heat) well, Durateck PK compounds are a dream to process and mould/extrude well. Our compounds are formulated to give you the biggest manufacturing window possible. Ask for a processing guideline to learn more.

**Q. What Colour is it?**

A. Durateck PK Natural compounds are a slightly translucent off-white colour.

Written by:

**Andrew Stewart**

**General Manager – Duromer Products**

[Andrew.stewart@duromer.com](mailto:Andrew.stewart@duromer.com)

The logo for Duromer, featuring the word "DUROMER" in white, bold, uppercase letters on a black rounded rectangular background.

**Duromer Products Pty Ltd**

A.B.N. 64 001 125 088

Lot 109 Progress Circuit, Prestons NSW 2170 Australia

Ph: +61 2 9426 7300 Fax: +61 2 9426 7399