



# OPTIMUM

Ongoing R&D in the GP Lens Sector

*Since Contamac's launch of the Optimum material range for GP contact lenses, it has taken its place amongst the best performing materials in this market segment. The Optimum range of material has excellent wetting properties and includes a material with the highest DK available for this product type. However, Contamac continues to further enhance these products and some recent developments are explained below.*

The Optimum range of GP materials, produced by leading manufacturer Contamac, has enjoyed a great deal of success since its launch three years ago. The range of four materials exhibits excellent properties including:

- > Exceptional stability
- > Low to extreme Dk options
- > Excellent wetting characteristics

This range of products expanded the performance of the GP material sector, with the inclusion of one particular variant, Optimum Extreme, which possesses both excellent wettability and the highest Dk available for a material, which does not require surface treatment.

## Material Enhancement

A significant research and development programme exists at Contamac, representing a large investment in bringing to the market products that offer even more opportunities to the specialist lens manufacturer. During these activities, the benefits of enhancing surface wettability by the application of plasma treatment techniques has been observed for a range of materials. As a result, Contamac investigated the use of plasma surface treatment to increase still further the excellent wettability characteristics of the Optimum range of materials.

Plasma has been described as the fourth state of matter, and is best described as ionised gas with an equal number of positively and negatively charged species. The highly charged species within the gas plasma bombard the surface of the material, and the resulting energy causes a number of changes on the surface of the material. It is used in a wide variety of applications, including highly efficient surface cleaning, or increasing hydrophilicity and even hydrophobicity.

A plasma oxidation surface treatment process has been developed for the treatment of GP contact lenses produced from the Optimum range of materials. The processes have been optimised to produce significant improvements in the wetting characteristics, without requiring a lengthy treatment procedure. The improvements in contact angle, measured using the sessile

drop technique, and expressed as a percentage, are shown in *figure 1*. The improvement in wetting characteristics can also be illustrated by the comparison of the actual drop formed on the surface of a GP material, both with and without surface treatment (*figure 2*).

Contamac has recently obtained FDA approval for the surface modification of GP materials through the use of plasma oxidation. As part of this approval we have provided recommendations on the particular conditions that should be used and also provided details of a typical plasma chamber unit that can be used for this purpose.

## Product Presentation

To complement the Optimum range of materials, Contamac has launched a unique tamper evident GP packaging system, specifically designed for fitting sets or dispensing inventory systems (*figure 3*). The Optimum lens case is proven to offer the specialist laboratory new opportunities in planned replacement programmes. It has a refreshing new look and in a busy opticians environment it is now possible to dispense at point of sale, giving practices the opportunity to gain competitive advantage.

The key features of this product include

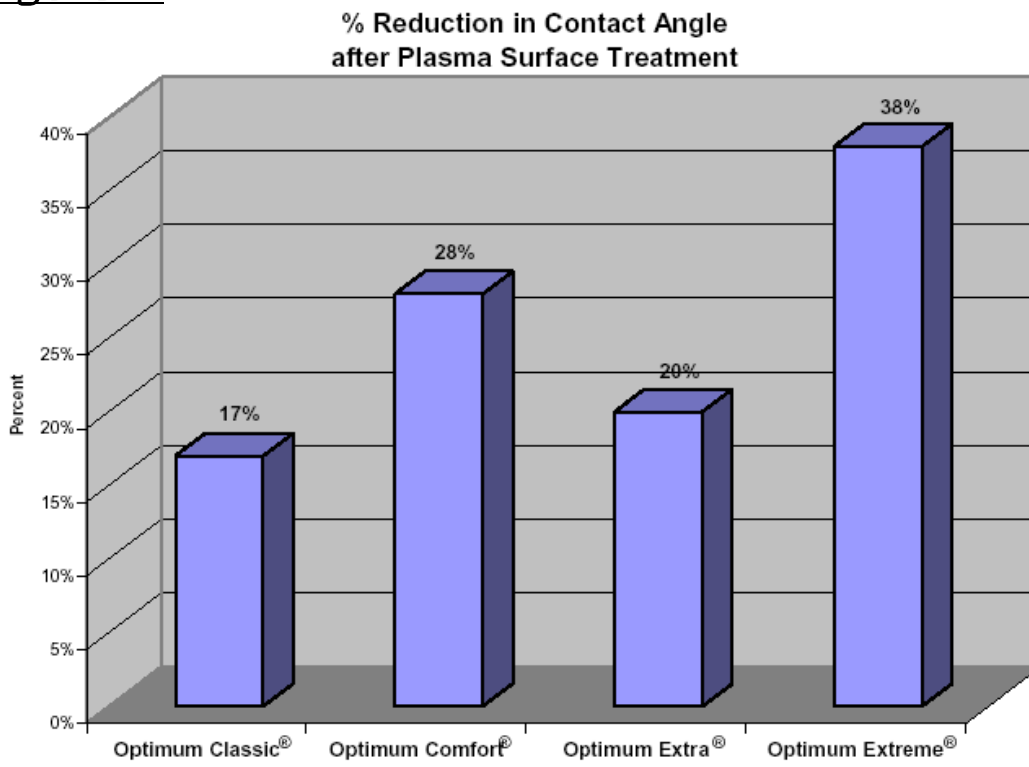
- Leak proof packaging - ideal for wet shipping
- Tamper evident seal - built into the closure system
- Clarified polypropylene – ensures the lens product is easily visible
- FDA approved for use as a contact lens case
- Patent pending design

Regardless of the speciality lens design being manufactured, e.g. multifocal, bifocal or kerataconus, the opportunity exists to present speciality lenses, manufactured out of the Optimum materials, in a unique way. As a result of the sophisticated interlocking system, any number of lenses can be produced for dispensing sets. Successful systems to date offer banks of lenses in configurations of ten, twenty-six and even one hundred (*figure 4*).

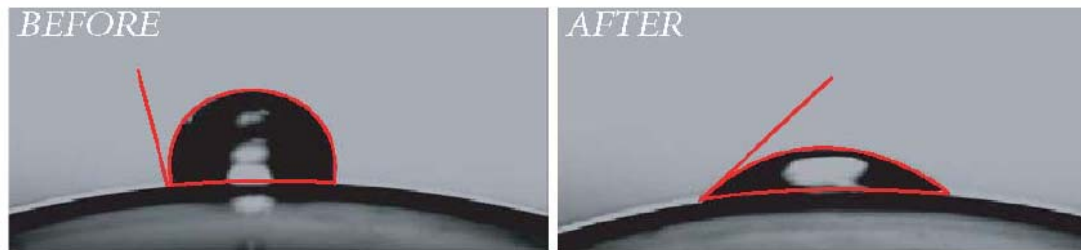
## *Because the best lens designs need the best materials.....*

Significant opportunities exist for the speciality lens manufacturer through the use of plasma treated Optimum materials presented in a unique packaging system. However, Contamac's commitment to create further opportunities for the specialist lens manufacturer should not be underestimated. The future launch of materials with clear property benefits to expand ocular applications will readily demonstrate this pursuit.

**Figure 1**



**Figure 2**

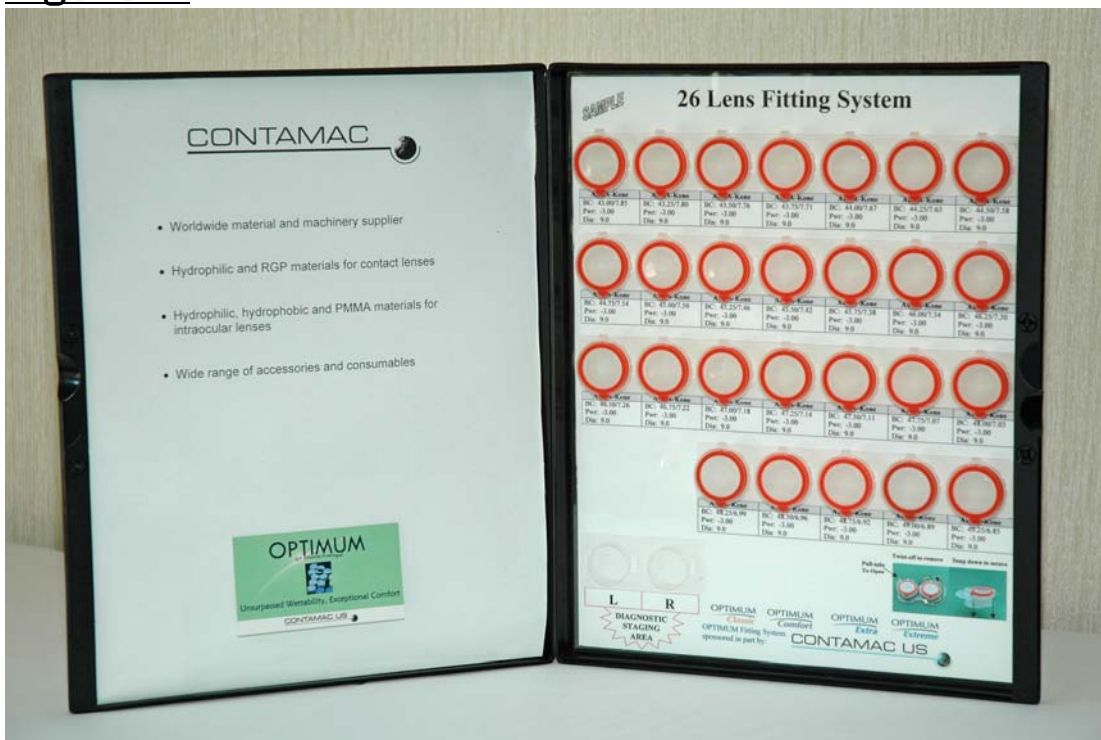


*Contact angle measurement of a GP contact lens before and after plasma surface treatment.*

**Figure 3**



Figure 4



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