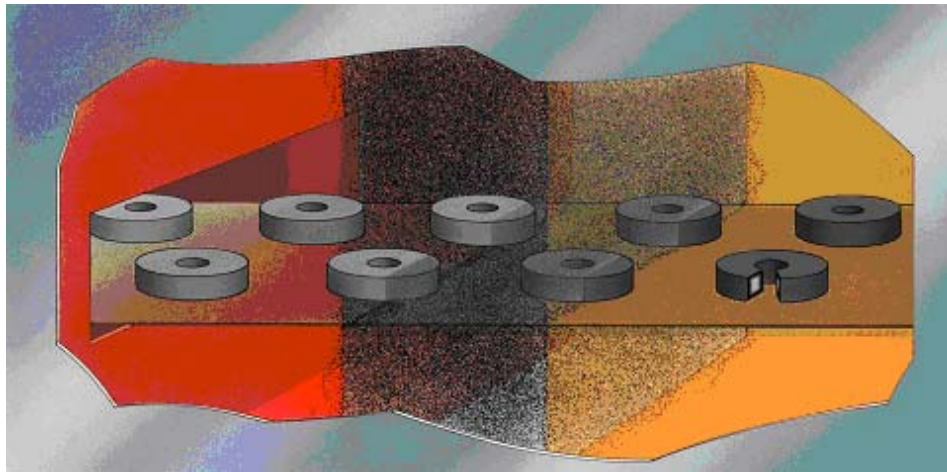


## Sinta Carb™

### A Lower Cost, Higher Performing Solution for Carburized, Fully Dense Components

Sinta Carb is a process unique to GKN that offers a **lower cost, superior performing** component compared to conventional, low-pressure-carburized components. GKN has produced automotive components for over 30 years utilizing the Sinta Carb process.

The low cost is the result of “in-process” carbon diffusion, as compared to expensive and time consuming carburizing required with conventional wrought materials. With the Sinta Carb process, the carbon percentage required for appropriate surface properties, at the predetermined case depth, is introduced into the porous preform during the sintering process. At this point of the production process, the preformed part is not fully dense. Therefore, the carbon readily diffuses into the component resulting in a deeper and more consistent case depth. The process can be tailored to fit individual customer application requirements.



Components are carburized (above) during the sintering process resulting in:

- Reduced component cost
- Improved dimensional quality
- Controlled case depth
- Elimination of costly and time consuming secondary carburizing process

see reverse for more information →

# Sinta Carb™ (continued)

## Sinta Carb™ Enhances Gear Performance

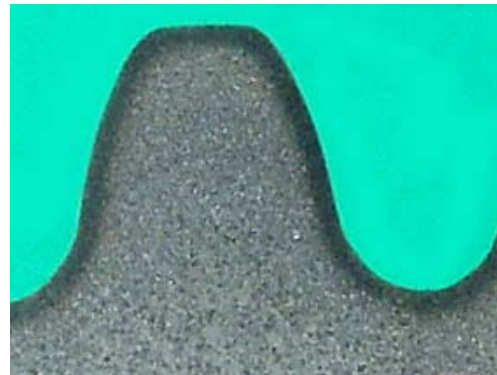
After forging, the case depth is thicker in the tooth flank - a desirable condition since the highest rolling and sliding contact stresses occur in this region. Conversely, the case depth thins at the tooth root thereby increasing impact strength in this region where maximum tooth bending stress occurs.



Sinta Carb™

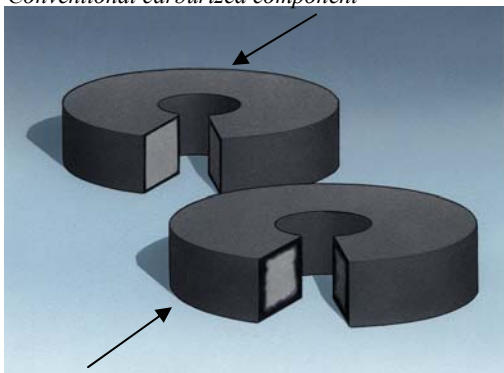
### Effective Case Depth (mm)

(1) Tip	2.4	1.1
(2) Pitch Line	1.9	0.9
(3) Root Fillet	0.4	0.8
(4) Root Land	0.8	0.9



Carburized

Conventional carburized component



SintaCarb™ component

SintaCarb™ results in a gradual transition gradient from the carburized case to the core (see drawing at left). This gradual transition better matches strength-versus-depth product characteristics with stress-versus-depth requirements of the application.

For further information on using P/M Technologies for your gear applications, call 1-248-371-0800; e-mail: [infogears@gknsintermetals.com](mailto:infogears@gknsintermetals.com)

**EXPECT > MORE**