

# I-arch: A new biomechanics approach

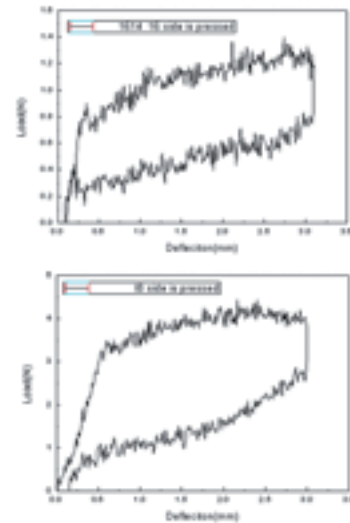
The i-arch is a unique and innovative system of orthodontic archwires made of a special alloy, based on years of research at Sia Orthodontic Manufacturer. It allows a highly innovative orthodontic biomechanical approach and characterised by effectiveness, simplicity, complementarity and biological compatibility. The effectiveness is due to the use of rectangular archwires, producing an immediate delivery of torque, from the alignment and levelling stage. The simplicity is assured by the reduced number of wires—only three—to be used. The complementarity arises from the possibility of using i-arch with any straight-wire prescription. The biological compatibility is ensured by the use of very gentle forces (from 40 g) for movement of the teeth, reducing the traumatic effects—especially at the beginning—of the orthodontic treatment.

## The i-arch system has the following features:

- reduced size of the two switched sections compared with conventional archwires;
- very light forces, especially in the initial phase of treatment;
- simplicity and ease of use, thanks to the reduced number of archwires (only three); and
- compatibility: you can use i-arch regardless of the straight-wire prescription used (both conventional or self-ligating brackets can be used), and with either a 0.018 in. slot or a 0.022 in. slot. When using conventional brackets with 0.022 in. slot, we recommend using metal ligatures at the beginning instead of elastomeric modules, in order to seat the wire well down in the slot.

## The i-arch system offers the following benefits:

- immediate torque delivery, which allows reduction of the treatment time and effective 3D movement of the tooth from the beginning of therapy;
- effectiveness in obtaining an increase in the size of the arch;
- reduction of pain for the patient;
- reduction of bone damage, especially at the level of the vestibular cortical bone; and
- an easy clinical protocol that results in reduced chair time and requires a lower stock of archwires in the practice.



The following archwire sequence is used for the i-arch system:

1. 0.016 × 0.014 in. copper–nickel–titanium thermal i-arch as the first archwire to obtain alignment, levelling and torque delivery;
2. 0.018 × 0.014 in. nickel–titanium super–elastic i-arch as the second archwire for the form of the arch and the sliding mechanics; and
3. 0.016 × 0.016 in. beta–titanium i-arch as the final archwire to complete the form of the arch, to perform the inter–maxillary mechanics and to stabilise the treatment results.



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