Arch Wires User Manual

Products Name: Arch Wire

The function of products: Used for making teeth to be compact and elegance

The type of this kind product:

1. According to the shape, we have different arch form as following: Square (01), Ovoid (02), Natural (03), Reverse Curve (04), Straight wire (05), ZZ arch (06), Lingual Arch (07), Tapered Arch (08), Damon Arch (09), Roth Arch (10),Standard（11）,Open and Close Spring；
2. According to the specification and size: Round (the radius 0.012，0.013，0.014，0.016，0.018，0.020 inches) and rectangle (0.014×0.025，0.016×0.016，0.016×0.022，0.016×0.025，0.017×0.022，0.017×0.025,0.018×0.018.0.018×0.022,0.018×0.025,0.019×0.025,0.020×0.020,0.021×0.025,0.021×0.028 inches)
3. According to the using site: Upper (01) and Lower (02)；
4. According to different using performance, we have stainless steel arch wires, Nitinol Super elastic Arch wires , Nitinol Thermal Active Arch wires and Beta Titanium Arch wire, Copper nickel titanium alloy Arch wire.

The structure of this product: the arch wires are the performing orthodontic wires

Product Performance:

一、 the machine performance of the stainless steel arch wires:

1. **Appearance**: stainless steel arch wires' surface can't have the pits and burr.
2. **Mechanical character**

2.1 The elastic modulus ≥18GPa.

2.2 Percentage elongation after fracture ≥1%.

2.3 Stress when the non-proportional elongation rate is 0.2% ≥ 1300MPa

2.4 Yield bending force with a deflection of 0.1mm ≥ 2.5N .

2.5 Bending stiffness ≥3N/mm.

二、the machine performance of the Beta Ti wires:

1. **Appearance**: Beta Titanium arch wires' surface can't have the pits and burr.
2. **Mechanical character**

2.1 The elastic modulus of round wire ≥25GPa, rectangle wire ≥16GPa .

2.2 The elongation of round 12 and 14 faults is ≥1%, and the elongation of other round and square faults is ≥1.5%

2.3 Stress when the non-proportional elongation rate is 0.2% ≥700MPa

2.4 Circular bending stiffness ≥1N/mm, square bending stiffness ≥3N/mm

2.5 Deflection is 0.1mm yield bending force: circular ≥1N, square ≥3.5N

三、the machine performance of the NiTi wires:

1..**Appearance**: The Niti Alloy arch wires' surface can't have the pits and burr.

2. **Austenite-finish temperature** :

2.1Niti super elastic arch wires Austenite-finish temperature: 15-35℃
2.2 Niti Thermal active arch wires Austenite-finish temperature: 20-40℃

3. Mechanical character:

3.1 When the deflection value of the Niti super elastic arch wires is 3.0mm, the unloading force range is0.35N～15.0N
3.2 When the deflection value of the Niti super elastic arch wires is 2.0mm, the unloading force range is 0.30N～13.0N
3.3 When the deflection value of the Niti super elastic arch wires is 1.0mm, the unloading force range is0.25N～12.0N
3.4 When the deflection value of the Niti super elastic arch wires is 0.5mm, the unloading force range is 0.20N～10.0N

3.5 When the deflection value of the Niti thermal active arch wires is 3.0mm, the unloading force range is 0.2N～13.0N
3.6 When the deflection value of the Niti thermal active arch wires is 2.0mm, the unloading force range is 0.15N～12.0N
3.7 When the deflection value of the Niti thermal active arch wires is 1.0mm, the unloading force range is 0.10N～11.0N
3.8 When the deflection value of the Niti thermal active arch wires is 0.5mm, the unloading force range is 0.10N～8.0N

3.9 When the deflection value of the Niti Memalloy arch wires is 3.0mm, the unloading force range is 0.3N～10.0N
3.10 When the deflection value of the Niti Memalloy arch wires is 2.0mm, the unloading force range is 0.25N～9.0N
3.11 When the deflection value of the Niti Memalloy arch wires is 1.0mm, the unloading force range is 0.20N～8.0N
3.12 When the deflection value of the Niti Memalloy arch wires is 0.5mm, the unloading force range is 0.15N～5.0N

3.13 When the deflection value of the Niti Bio Memalloy arch wires is 3.0mm, the unloading force range is 0.6N～13.0N
3.14 When the deflection value of the Niti Bio Memalloy arch wires is 2.0mm, the unloading force range is 0. 5N～12.0N
3.15 When the deflection value of the Bio Niti Memalloy arch wires is 1.0mm, the unloading force range is 0.40N～11.0N
3.16 When the deflection value of the Bio Niti Memalloy arch wires is 0.5mm, the unloading force range is 0.3N～8.0N

4 The permanent deformation rate should be not more than 3% after unloading.

Scope of application: The product is used for orthodontic treatment.

Installation and manual:

1. Please clean the teeth face, bonding the bracket before using, and sterilize.

2. Bend the wires to the form accorded with the patient's dental arch with the arch turret, and cut the end with the pliers.
3. Put the wires to the correct position of the bracket, and do the back bending for the and according to the requirement.
4. Fix the wires on the bracket with the ligature wires or elastics. The product will supply the lasting back correcting force.

Matters and attention:

Regarding the super elastic wires, the local strain should not be exceeding 5% when bending to make sure the elasticity can be completely back. Regarding the thermal active wires, you can soap it to the ice water to make it soft so that it can be posited to the bracket more easily.

Announcement:

1. Please sterilize the product before using.
2. Recommended method：Use alcohol to clean.
3. Please don't heat the other parts in or above 300℃ to avoid the damage as the product itself has make sure the best effect.
4. The product can be only disposable. If use repeatedly, it won't achieve the intended effect.

Contraindication:

People allergic with NiTi, stainless steel and Beta Ti should use with caution.

Preservation method: Keep under the environment dry and normal temperature.

Valid period: 5 years

On the packing label to confirm the date of manufactured.

Mark：

The product can be only disposable

Preservation method： Keep the environment without active gas and ventilative.

Version: C/2

Effective date: Dec 2020

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