



Jigs, racks and clamps

TITANIUM RACKS

TITANIUM.

This metal has the following advantages:

- Good strength and durability
- Chemical inertness to most chemicals except chromic acid, chromates, hydrofluoric acid and fluorides

It also has the following disadvantages:

- High initial cost
- Requires specialist repair facilities
- More limited current carrying capacity than aluminium
- Not suitable for electrocolouring

CURRENT CARRYING CAPACITY

By comparison with aluminium Jigs, in air the value of current carrying capacity for titanium is 0.13 A/mm^2 , only about 10% of the value for pure aluminium. This can lead to inadequate current carrying capacity in the jig stem. This can be overcome either by using aluminium for the stem only, or replacing titanium bar with titanium sheathed aluminium.

The current carrying capacity of titanium in the electrolyte is much higher than in air. There are numerous types and design of racks. The following is a description of main types.

FINGER RACKS

The name is self descriptive, although in some quarters they are referred to as "fir tree racks". Essentially they consist of a spine (usually square) to which are attached

either wire forms or flat or shaped "fingers" of appropriate width. They are especially suited to racking of small piece parts. Most of these designs incorporate notches or grooves to assist in locating the parts.

BOX RACKS

The name is self descriptive, in that it consists of a "box" frame comprising of two vertical spines with blanked out fingers, usually with vee notches, which are blanked out a pre-determined spacings. The width and lengths of the fingers can be chosen to meet the needs of the widths of the components being racked. The distance between the upper and lower rack fingers can be varied using the adjustable bolts that form part of the unit.

"UMBRELLA" RACKS

These are an adaptation of finger racks, in which the fingers are arranged radially and bent over to form an umbrella shape and are mounted on a central spine. The fingers usually have a vee notch or may have an outward pointing vee, a slot or a groove. Sometimes they may be made from wire-forms.

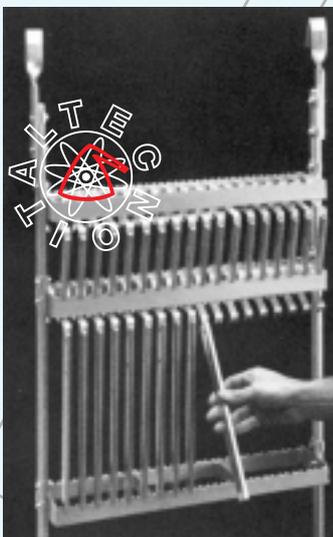
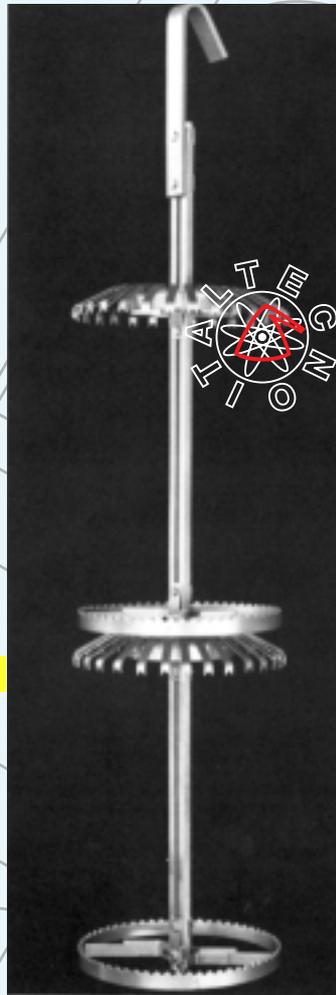
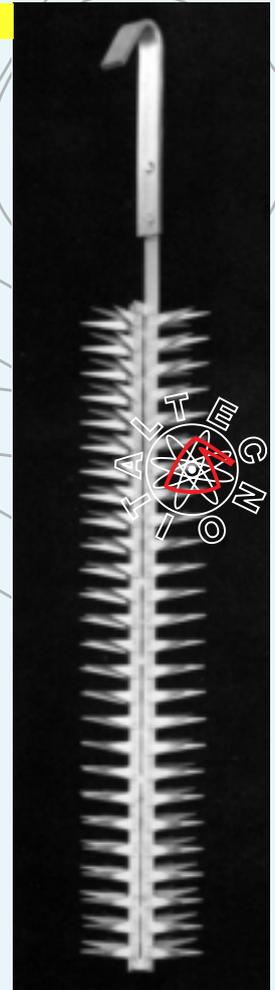
SELF-ASSEMBLY RACKS

These consist of a spine with holes or slots blanked out at intervals to which various designs of clip may be attached. The assembly of these clips may be temporary or permanent.

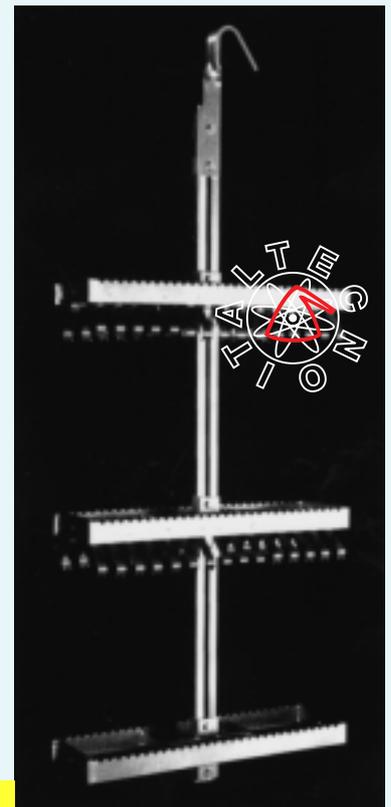


Umbrella racks

Fir tree rack



Self assembly box rack

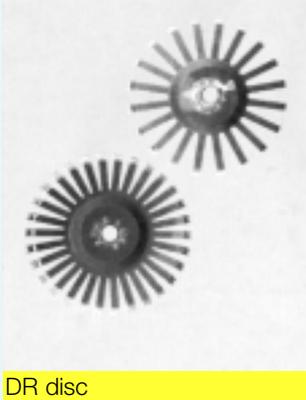


Box rack

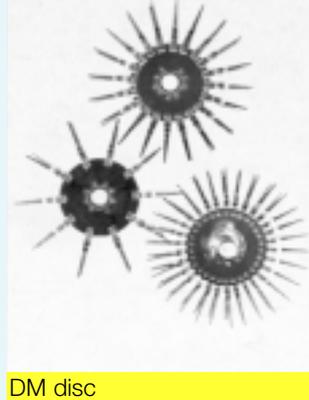


Titanium parts for racks

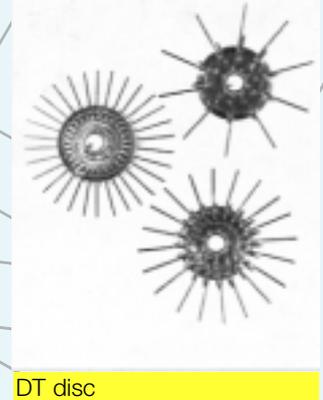
Titanium disc and racks



1) DR disc



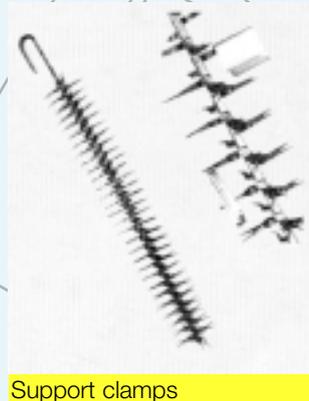
2) DM disc



3) DT disc



4) TM rack



5) Support clamps

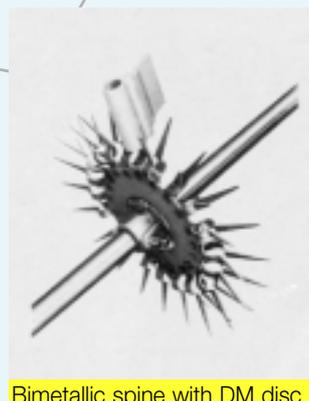


6) BR rack

Titanium/aluminium spines



7) Bimetallic spine with DR discs



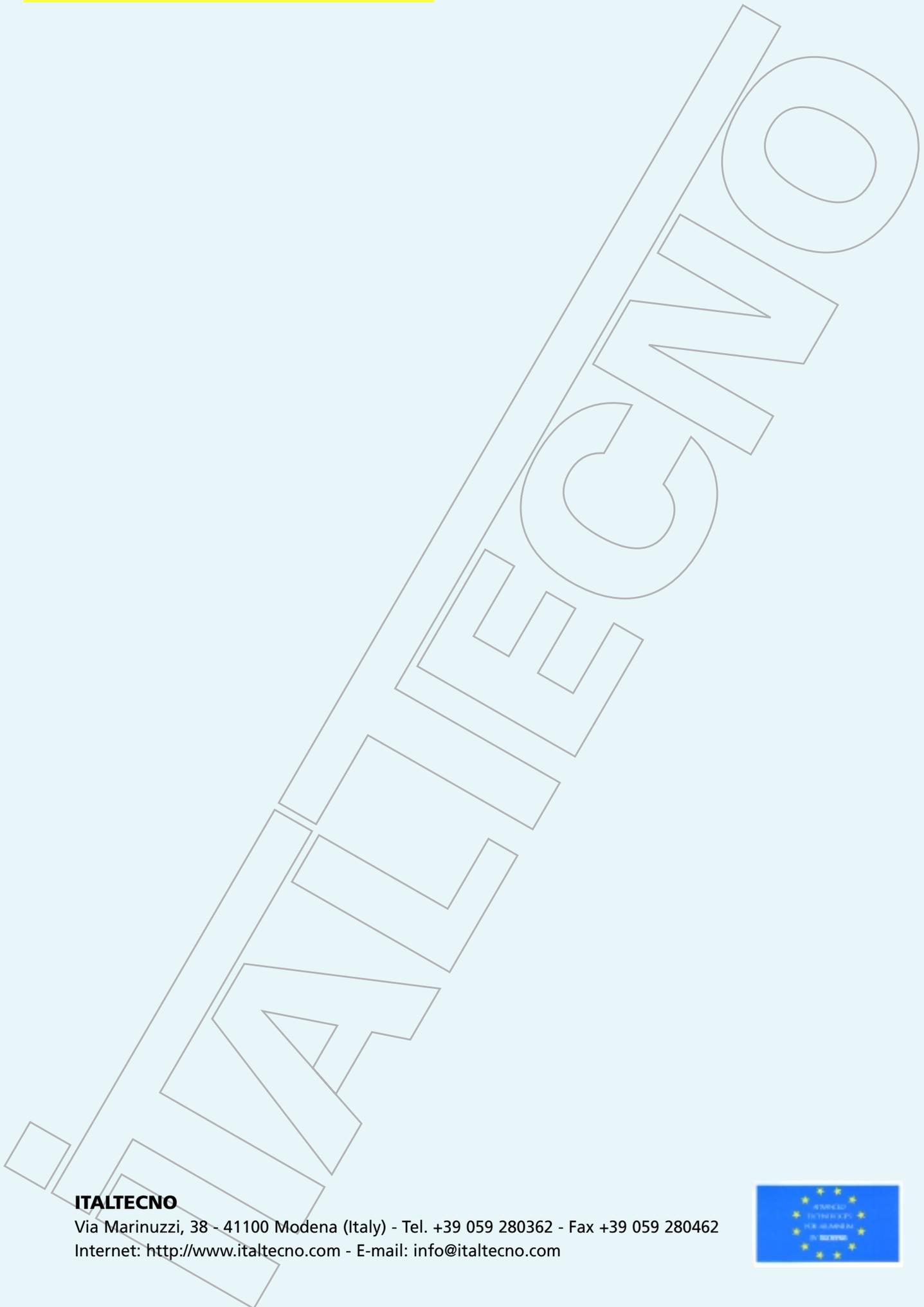
8) Bimetallic spine with DM disc



9) Bimetallic spine with TM rack



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