Nesting trials performed by M.GI. Tools – 30/10/2020 Cutting tools designed & manufactured by M.GI. Tools

Material – 12mm thick Melamine Faced Plywood

www.mgitools.it



The trial involved using 3 different PCD cutters.

Each cutter was fitted to a Thermo-grip holder. Secure and precise clamping is fundamental to good edge finish and extended tool-life.

These cutters are made with Heavy Metal bodies. They all have PCD plunging and 3mm tip heights.

- 1. Ø12 x 24 Z3+3 20° compression shear
- 2.  $Ø12 \times 24 Z2+2 20^{\circ}$  compression shear
- 3.  $Ø12 \times 26 Z1 + 1 54^{\circ}$  compression shear



All cutters are balanced to G2.5 at 24.000 RPM. This is standard procedure at M.GI.



Results, first tests using:

Ø12 x 24 – Z3+3 – 20°

## Common Chip Load: 0,33

C. 20.000 RPM @ 20m/min

B. 18.000 RPM @ 18m/min

A. 18.000 RPM @ 15m/min





Results, second tests using: Ø12 x 24 - Z2+2 - 20°

# Common Chip Load: 0,33

C. 20.000 RPM @ 14m/min

B. 18.000 RPM @ 12m/min

A. 18.000 RPM @ 10m/min





# Common Chip Load: 0,33

C. 20.000 RPM @ 7m/min

B. 18.000 RPM @ 6m/min

A. 18.000 RPM @ 5m/min





### Useful information:

#### **START-UP GIUDE 1.**

12mm x 24mm Z3+3
Nesting 12mm Plywood
Desired Chip Load a for good finish 0,33
RPM 18.000 | Feed 18m/min.

#### **START-UP GIUDE 2.**

12mm x 24mm Z2+2
Nesting 12mm Plywood
Desired Chip Load a for good finish 0,33
RPM 18.000 | Feed 12m/min.

#### **START-UP GIUDE 3.**

▶ 12mm x 26mm Z1+1

Nesting 12mm Plywood

Desired Chip Load a for good finish 0,33

▶ RPM 18.000 | Feed 6m/min.





### Useful information:



- 1. Ø12 x 24 Z3+3 20° compression shear (7,5mm positive)
- 2. Ø12 x 24 Z2+2 20° compression shear (7,5mm positive)
- 3. Ø12 x 26 Z1+1 54° compression shear (9,0mm positive)





## Additional trials

Material – 12mm thick Melamine Faced Plywood with polystyrene core

The polystyrene core benefits from a high shear angle tool, cutting against the feed.

### **Final finish quality AGAINST FEED** 18.000 RPM @ 5m/min

5



Ø12