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1 Spectrum of parts (source: ADIA-PRESS Groupe MEYER France)

2 Machine for high speed impact cutting (source: ADIAPRESS Groupe MEYER France)

## HIGH SPEED IMPACT CUTTING OF SHEETS AND TUBES

### Advantages of technology

- Nearly free of burrs and right-angled cutting area
- Fine textured surface of fracture zone
- Limited deformation of parts
- Dry, oil free cutting process
- Saving of finishing processes

### Machine for high speed impact cutting

- Machine with portal frame, modularity possible
- Energy capacity: 1,7...7 kJ (expandable)
- Velocity: 10 m/s (expandable to 15)
- Generation of energy currently by hydraulic cylinder
- Integrated damping system for machine and tool
- Suitability for series production up to 120 cuts per minute

### Functional principle

- Physical phenomenon of “shear band development”
- High increase in temperature in a very short time ( $< 100 \mu\text{s}$ ), in a very limited volume of material ( $< 100 \mu\text{m}$ )
- The amount of heat produced does not have time to exchange with the environment of process zone
- Large increase of material softening (“adiabatic softening”)
- “Sharp” separation of material caused a high cutting quality

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