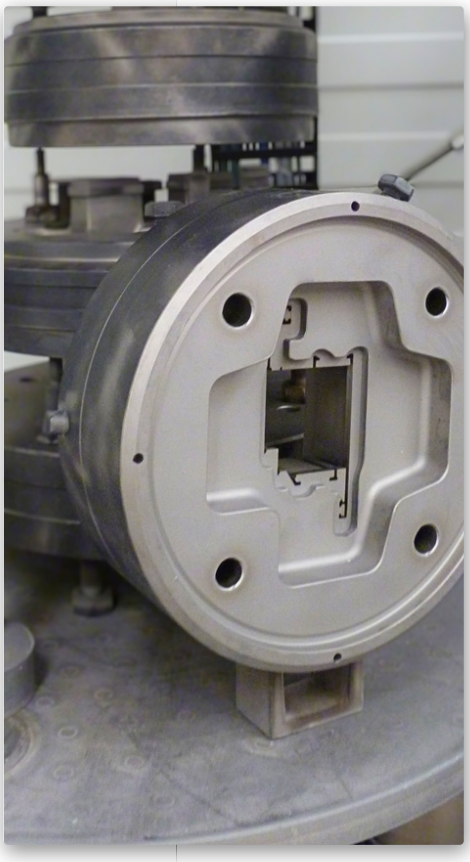
Extrusion Industry

Plasma (Ion) Nitriding in the Extrusion Industry



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Parts:

- **Extrusion Dies** for Cold, Warm and Hot Extrusion
- **Punches** (Impact extrusion)
- **Shear blades**

Requirements:

- For high **Hardness**
- For high **Wear resistance**
- For high **Fatigue strength**
- For **Plastic deformation resistance**
- For **Thermal fatigue resistance**

Ion Nitriding Solutions:

- **Significantly increasing** the **surface hardness, wear (abrasive and adhesive) resistance and fatigue life of the tools, improving their lifespan and performance.**
- **Improving the thermal fatigue resistance** of the tools.
- **Reducing the friction coefficient.**
- **Increasing the corrosion resistance** which is needed if the die sets are working in environments with moisture or corrosive substances.

Improving these parameters **will save from downtime and maintenance costs.**

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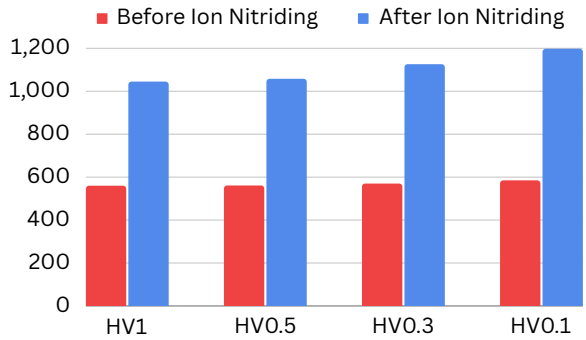
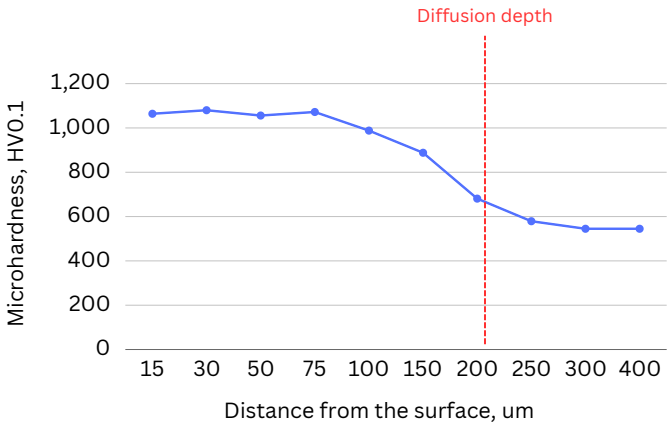
Steel Grades Used:

Steel Grade	Surface Hardness, HV	Case Depth, um
H-13 / X40CrMoV5-1/ SKD61	900 - 1200	40 - 200
H-11 / X37CrMoV5-1	900 - 1200	40 - 200
H-21/X30WCr-V3/ SKD5	850 - 1000	50 - 250
X38CrMoV5-1 / 1.2367	800 - 1000	50 - 200
L6 / 55NiCrMoV7	600 - 800	150 - 400
M2 / HS 6-5-2 / 1.3343	1000 - 1300	40 - 150
1.6358	850 - 1000	50 - 150
1.2709	850 - 1000	50 - 150

- Hardness and depth values are recommended for the industry and exact values will depend on the nitriding process parameters.
- This is not a full list of used steel grades





- Example of H13 tool steel after Ion Nitriding - surface hardness and diffusion depth

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Equipment and Technology

Developed state of the art both Hot-Wall and Cold-Wall furnaces for Plasma (Ion) Nitriding.

Know-How and Expertise

We share our knowledge and expertise on nitriding different steel grades and parts, gathered for more than 45 years.

Support

We give full-time support.

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