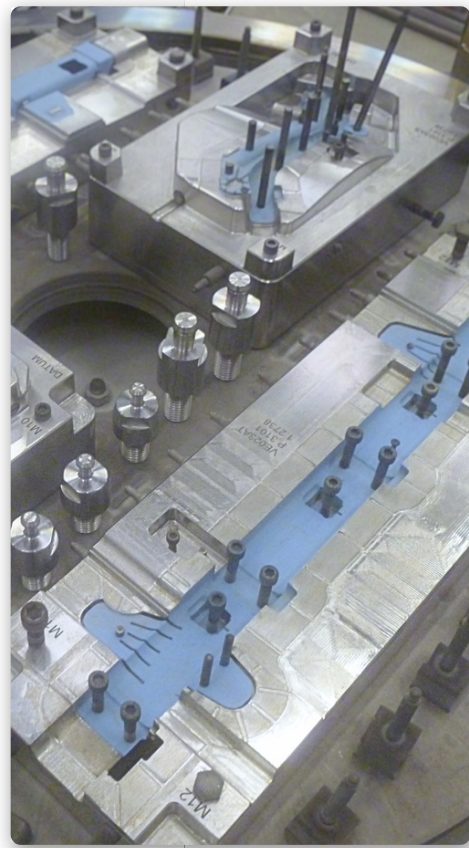


# Plastic Injection Moulding

Plasma (Ion) Nitriding in the Plastic Injection Moulding Industry



## Parts:

- **Plastic Injection Moulds**
- **Screws**
- **Barrels**
- **Nozzle tips and nozzle bodies**
- **Side-action cores and cavity inserts**
- **Ejector Pins and sleeves**
- **Slides and lifters**
  
- **Bushings and guide pillars**

## Requirements:

- For high **Wear resistance**
- For high **Fatigue strength**
- For **Reduced friction and adhesion**
- For **Corrosion resistance**

## Ion Nitriding Solutions:

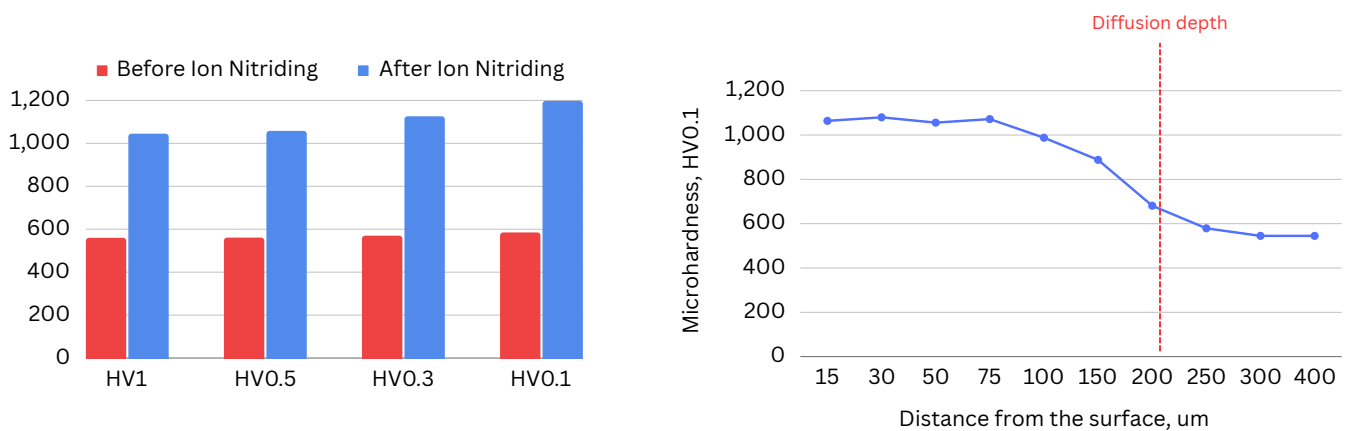
- **Significantly increasing the surface hardness, wear (abrasive and adhesive) resistance and fatigue life of the tools, improving their lifespan and performance.**
- **Reducing the friction coefficient and the adhesion of the plastic material to the tools.** Nitriding will also lower the friction for bushings and guide pillars.
- **Increasing the corrosion resistance** which is needed for certain additives and processing conditions.

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

## 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
X38CrMoV5-1 / 1.2367	800 - 1000	50 - 200
D2 / X153CrMoV12 / SKD 11	900 - 1200	40 - 150
A2 / X100CrMoV5 / SKD12	800 - 1000	50 - 200
P20 / 3Cr2Mo / 1.2311	700 - 900	100 - 250
L6 / 55NiCrMoV7	950 - 1200	50 - 150
630 / 17-4PH	950 - 1200	50 - 150
420	950 - 1200	50 - 150
422 / X33CrS16 / 1.2085	950 - 1200	50 - 150
41CrAlMo7-10	900 - 1100	100 - 350
4140	650 - 750	150 - 400
4142 / 42CrMo4	650 - 750	150 - 400
5115 / 16MnCr5	650 - 750	150 - 400

- 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



## 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.



---

### **Ionitech Ltd.**

5 Capitan Ljuben Kondakov st.,  
Sofia 1582, Bulgaria  
Mobile: +359 887 80 9272  
Mobile: +359 889 36 4364  
Email: office@ionitech.com  
www.ionitech.com