Gauge Plate / Ground Flat Stock

Precise ground tool steel and gauge plate for the discerning, professional toolmaker

Gauge plate / ground flat stock stockholders and suppliers, delivering to the whole of the UK.

West Yorkshire Steel stock gauge plate / ground flat stock in grade O1 tool steel; we can also produce non standard sizes. If an alternative grade is required we can manufacture gauge plate in alternative specifications such as D2, D3, EN8 and numerous other types. Supplied fully annealed, gauge plate is precision ground to close tolerances, enabling finished components to be produced with the minimum of machining. O1 ground flat stock is heat treatable to a high hardness, it possesses good hardenability with excellent dimensional stability and resistance to wear.

Form of Supply

Gauge plate / ground flat stock metric sizes are available in 500mm and 1000mm lengths. Imperial sizes are available in 18" and 36" lengths. Standard and non standard sizes are available. We stock 405mm and 505mm wide in addition to our wide range of sizes up to 300mm. Subject to size suitability and availability non standard gauge plate / ground flat stock sizes can be produced in approximately 2 to 3 weeks

Applications

Gauge Plate / Ground Flat Stock is suitable for a wide range of applications including gauges, punches, dies, jigs, machine knives and parts.

Contact our experienced sales team who will assist you with your GFS enquiry.

- Sheet
- Flat
- Plate

Typical Analysis O1 Tool Steel (standard grade for GFS)

Carbon	0.95%	Chromium	0.50%
Manganese	1.25%	Tungsten	0.50%
Vanadium	0.20%		

Tolerances

Metric Sizes:
Thickness +0.05mm/-0.00mm
Width +0.20mm/-0.00mm
Length +3mm/-0mm

Imperial Sizes:
Thickness +0.001"/-0.001"
Width +0.005"/-0.000"
Length +1/8"/-0"

Hardening O1 GFS

Heat the O1 ground flat stock component slowly and if possible pre heat at 300-500°C before increasing to the hardening temperature of 780-820°C. Pre heating is highly recommended for complex sections. Soak the component thoroughly allowing thirty minutes per 25mm of ruling section before quenching. Light section tools should be quenched in oil from the lower end of the hardening temperature range. Tempering the heat treated tool is always necessary after hardening.

Martempering O1 GFS

Martempering of O1 ground flat stock is an alternative hardening process which may be used when suitable salt bath equipment is available. With this method internal strain, distortion and risk of quench cracking are reduced to a minimum. Pre heat the gauge plate tool at 360°C then raise to 800°C for sections 3mm thick or less, or to 820°C for sections over 3mm thick. Soak the component according to section then quench into molten salt, held at 210°C. Allow sufficient time for the centre of the tool to reach bath temperature, withdraw and cool in the air. Tempering of the tool will then be necessary. Hardening the O1 ground flat stock component from a neutral salt bath, will reduce the possibility of scaling or decarburisation. Heat the component to 830-850°C and after equalisation quench in oil

Tempering O1 GFS

Tempering is recommended between 100-350°C. Soak the tool well at the selected temperature and soak for at least one hour per 25mm of total thickness.

Temperature °C	100	150	200	250	300	350
Hardness HRc	64-63	63-62	62-61	60-59	58-57	56-55

Heat Treatment

Heat treatment temperatures, including rate of heating, cooling and soaking times will vary due to factors such as the shape and size of each ground flat stock / gauge plate component. Other considerations during the heat treatment process include the type of furnace, quenching medium and work piece transfer facilities. Please consult your heat treatment provider for full guidance on heat treatment of tool steels.

Quality Assured Supply

Gauge Plate / Ground Flat Stock is supplied in accordance with our ISO 9001:2015 registration.