

**HOFMANN  
ENGINEERING**

## FORGED STEEL FABRICATED GIRTH GEARS

*Since 1969 Hofmann Engineering has provided specialist engineering services to Australia's industry leaders.*

*Quality Assurance certification by Lloyds complements our total quality culture.*

*Our commitment to continuous quality improvement touches every aspect of our products, services and customer support.*

### HOFMANN ENGINEERING PTY LTD

3 ALICE STREET,  
BASSENDEAN, PERTH,  
WESTERN AUSTRALIA 6054

Telephone: +61 8 9279 5522

Facsimile: +61 8 9279 9386

Net: [www.hofmannengineering.com](http://www.hofmannengineering.com)

Email: [mail@hofmannengineering.com](mailto:mail@hofmannengineering.com)



### FORGED STEEL

Use Forged Steel Fabricated Girth Gears to overcome your cast steel cracking problems. Forged steel gives the highest crack and impact resistance.

**CASTING** defects and imperfections cause cracking and tooth breakout.



### HOFALLOY FORGED MATERIAL

Hofalloy 1 Forged Gear Rim Material conforms to:

- 1) AGMA 2001 Grade 2 specification.
- 2) Hardness 330 – 360 BHN.
- 3) 3:1 Forging Reduction.
- 4) Induction Hardenable.
- 5) Site weld repairable in the event of a catastrophic mishap.



### STOCKED INSURANCE SPARE MATERIAL

Use one plate to suit a variety of gears On Site:

- 1) **FORGED HOFALLOY** plate can be used as an insurance spare to cover many different girth gears.
- 2) Reduces manufacturing lead time.
- 3) Lowers insurance premiums.





1

## SITE AUDITS

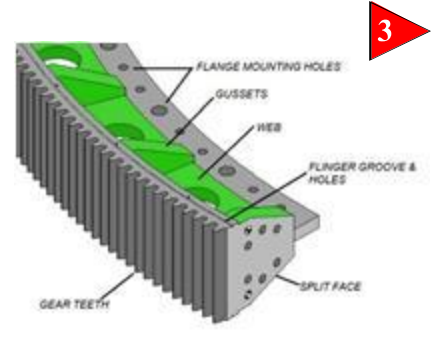
Evaluate Girth Gears and their conditions. Determine suitable forged steel rim plate – dimensions based on pitch, face width & Gear diameter. Order forged rim plate based on site audit. Rim plate can be ordered to suit a variety of Gears on site.



2

## SITE GEAR INSPECTIONS

- Full Dimensional inspections done onsite.
- Diameters, Lengths, Hole PCD
- Full Gear inspection including:
  - Pitch.
  - Lead.
  - Involute.
- Hardness testing.
- Crack detection.
- Material chemical analysis.



3

## DESIGN

- CAD design with 3D modelling to produce accurate manufacturing drawings.
- FEA analysis to optimise the weld sizing to keep stress levels to a minimum.
- Gear consulting.
- Gear design & rating calculating to DIN & AGMA standards.



4

## FORGED STEEL

- Rim plate can be held in stock until required.
- One plate can be purchased to suit a variety of Gears on individual or corporate sites.
- Once forged steel is in stock, manufacture lead time can be significantly reduced.



5

## OXY CUTTING

- The forged steel is marked out & oxy-cut to width to suit the specific gear to be manufactured.
- Purchase of material in advance (No holding fee) allows the spread of costs over period of time.



6

## BENDING

- The individual lengths of plate are then rolled to the specific radius required for your gear.
- 6000 tonne roll pressing capacity.
  - Unlimited length.
  - 250mm thick x 3700mm wide.



7

## FABRICATION

- Individual segments are fabricated to the strictest of welding and inspection procedures.
- NDT Inspection including 3<sup>rd</sup> party NATA ultrasonics.
- Full penetration submerged arc welds on critical joints.
- Stress relieved.



8

## MACHINING

- Proof Machined.
- Finished machined.
- Dimensionally inspected to internationally recognised standards.
- Full gear inspection including final mesh testing.



9

## INSTALLATION & Alignments

Experienced team available to Plan, Manage & install your; Girth Gears, Pinion Assemblies, Gearboxes & Inching Drives. Fully Equipped with all tooling, for Laser Aligning, Machining, Fabrication & Mill Drive Adjustments Ready for site work.