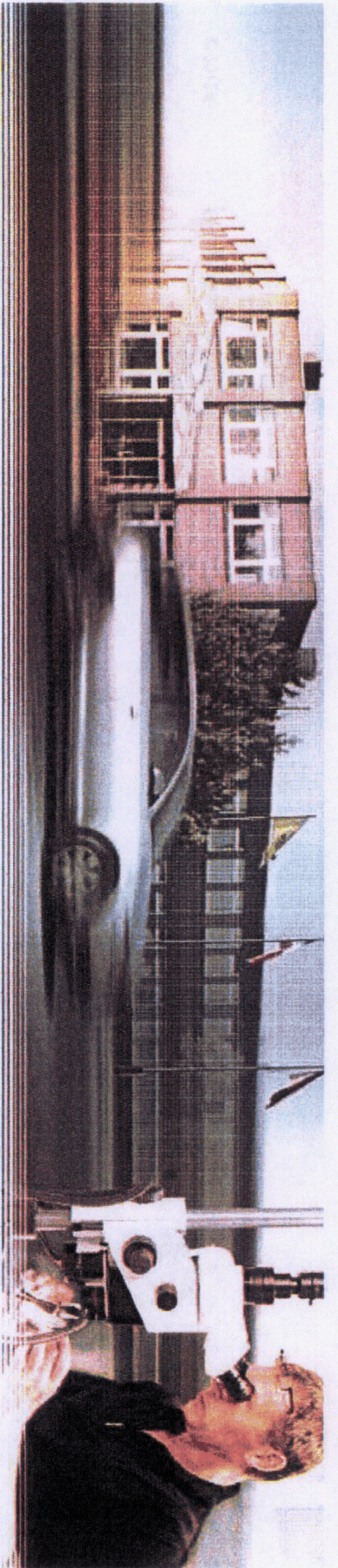


Attachment D

- G. BRUSS GMBH PRODUCTION SYNOPSIS
- APPLICATION FORM DRAWING 5 – PLAN OF SITE ACTIVITIES
- COPY OF APPLICATION FORM MAP 3 NOISE EMISSION PTS
- APPLICATION FORM DRAWING 11 GLEITMO COATING PROCESS FLOW
- APPLICATION FORM DRAWING 12 GLEITMO COATING PROCESS LAYOUT

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For inspection purposes only.
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BRUSS

Production Process Synopsis

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Consent of copyright owner required for any other use.

BRUSS plant in Sligo / Ireland

■ Plant profile & product-portfolio



2013: 300 Employees

G. BRUSS Dichtungstechnik GmbH & Co. KG

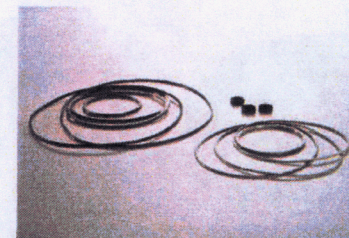
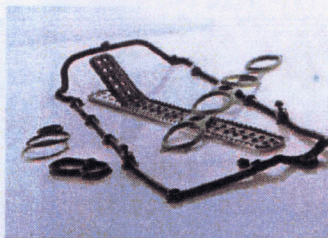
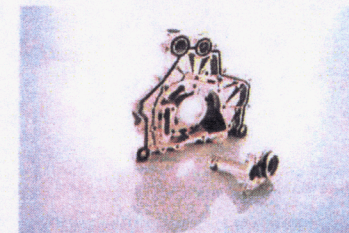
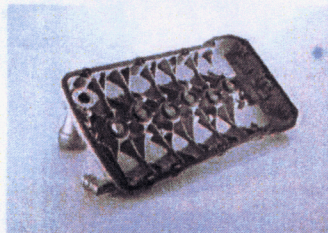
Finisklin Road
Sligo / Ireland

Phone: +353 7191 563-00

Fax: +353 7191 693-52

E-Mail: BrussIreland@bruss.de

■ O-Rings and pure rubber gaskets

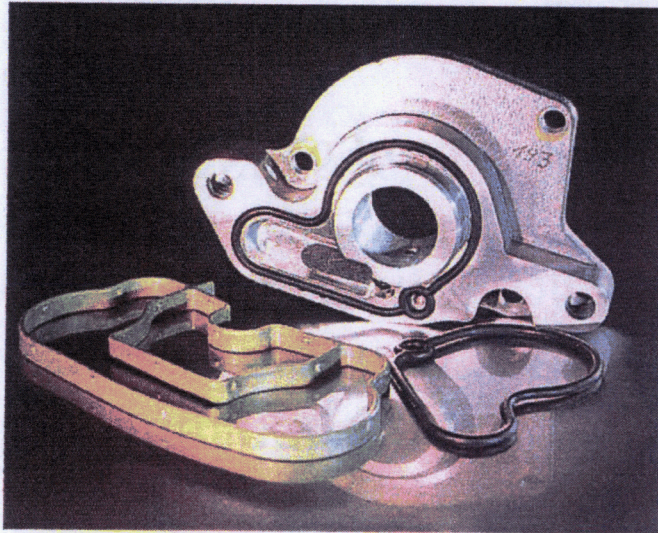


Product Profile at Bruss Sligo

-  O-Ring
-  A- Ring
-  Profile seal
-  Sealing ring
-  Cover gasket (oil pan, cam cover, etc.)

BRUSS Sligo produces an all rubber range of products

Synthetic Rubber Material Groups in production at BRUSS Sligo



Material Groups:

ACM (black)

AEM (black)

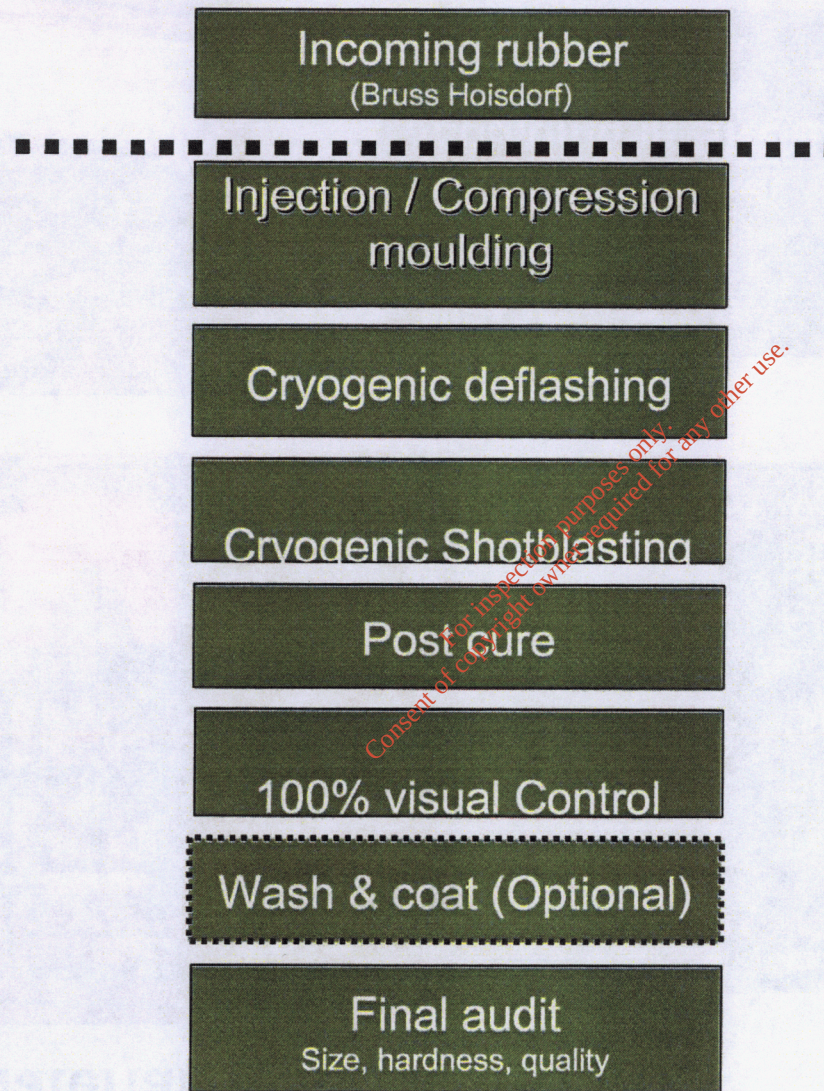
FKM (black, red , green)

NBR (black, green)

HNBR (black, green)

EPDM (black)

Production Process Flow – Injection and Compression Moulding



Incoming Material - Goods Inwards



Raw Material -

Developed and
Blended in BRUSS
Germany

Shipped weekly to
BRUSS plants
worldwide

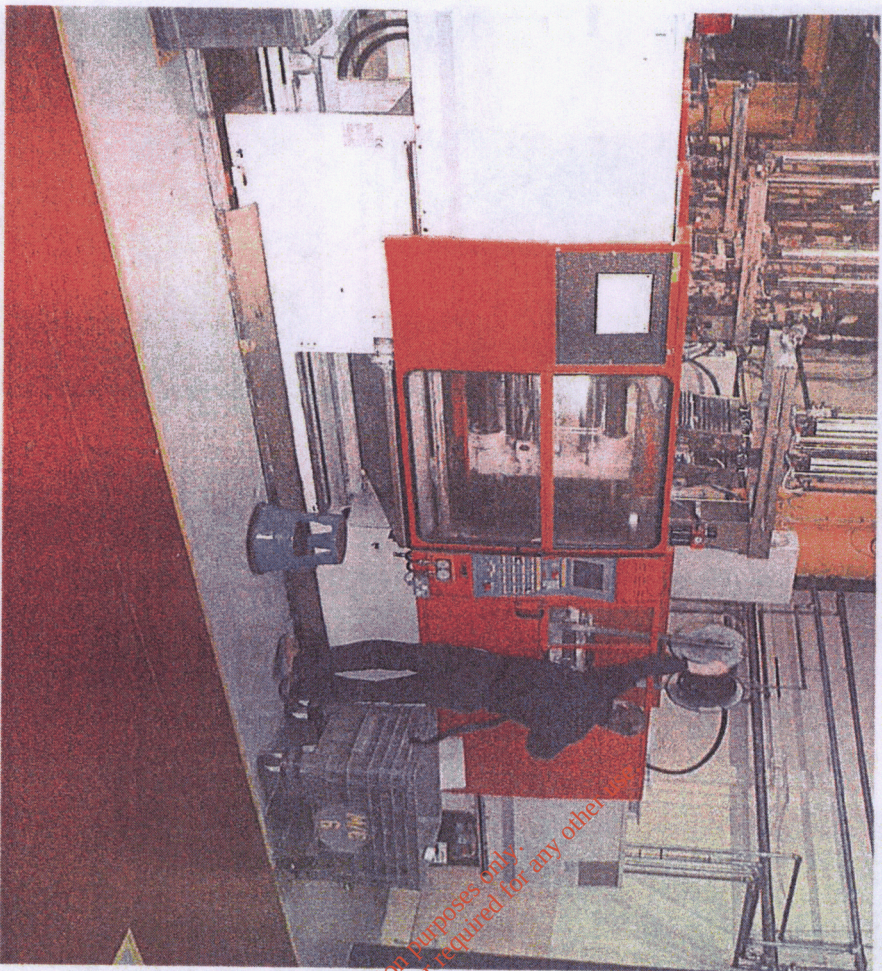
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Material Strip -

'Ready to Use' at
moulding in BRUSS
Sligo

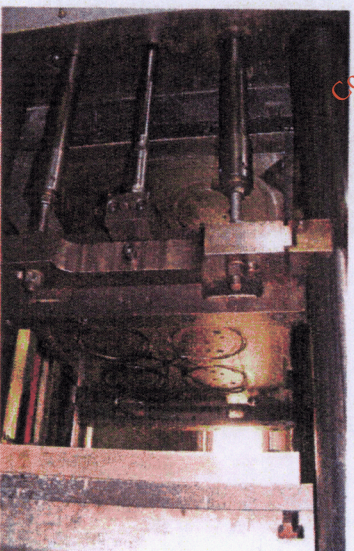
Production Process - Moulding of Product



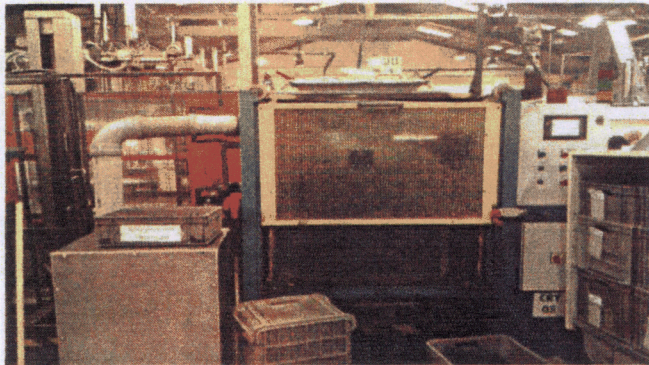
Injection / Press Moulding in all Business Units

* MIR 190 T Injection Moulding Machine

Moulding of raw material at temperatures of between 170 C to 200 C



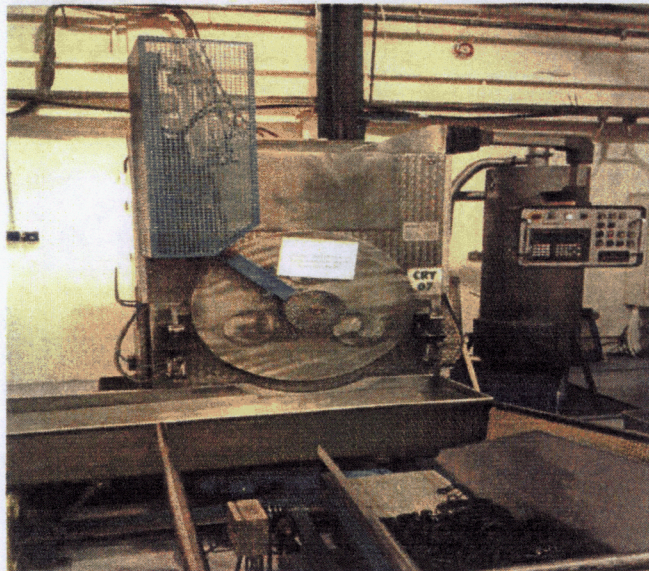
Cryogenic Deflashing and Shotblasting



Deflashing

Removal of runner & overflows

Temperature
Max -130C



Shotblasting

Flash removal from parting
line using 0.75mm
polycarbonate shot

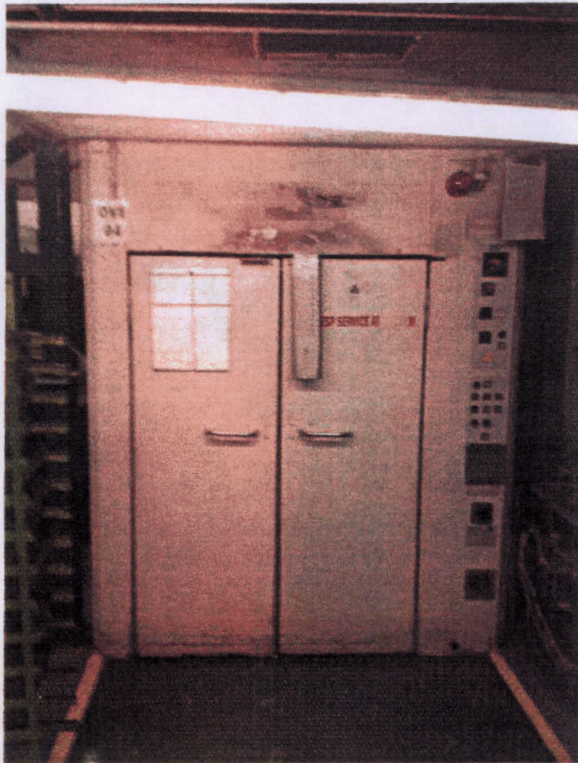
ISO 3601
S-Standard

Temperature
Max -130C

EPA Approved Recycling

Non-Haz. Waste Rubber
collection for rubber recovery

Oven Postcuring (tempering)



Temperature

180 C – 250C

Duration

5h – 12 h

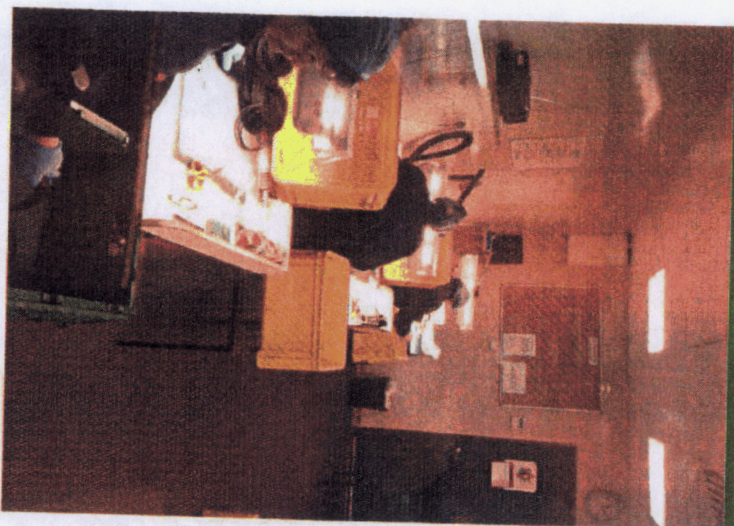
Dependant on material

Licensed Emission Points

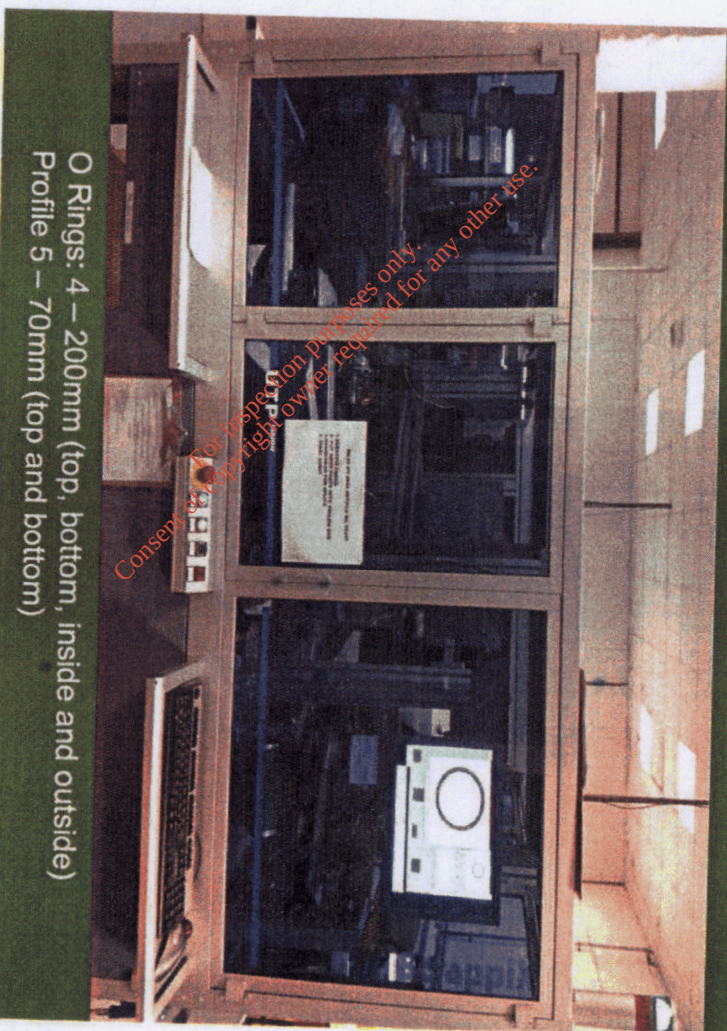
A-1 to A-4

Visual Inspection

manual inspection



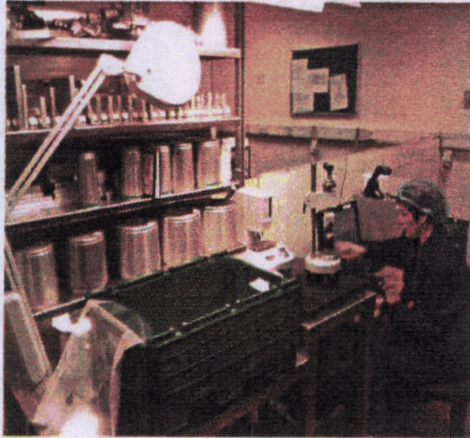
automatic inspection



O Rings: 4 – 200mm (top, bottom, inside and outside)
Profile 5 – 70mm (top and bottom)

All part numbers are 100% inspected

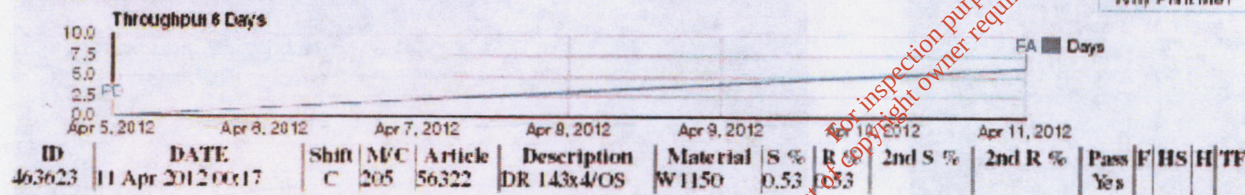
Final inspection and release



- Visual sample
- weight / Density
- Hardness
- Dimensions

Traceability of each production box

Final Audit Details



Production Information

M/C Operator	Krzysztof Bialek (1510)
Deflasher	Paul Lynskey (1148)
Shot-Blaster	Cezary Kozubek (1727)
Tempered By	Gerald Herity (736)
Checker	Geraldine McDonagh (89)
Auditor	Nicola Scanlon (1668)
Weight	15.23 15.31 15.20 15.28 15.33 15.26 15.31 15.20 15.29 15.31 MIN: 15.084 MAX: 15.858
Hardness	73.6 76.5 78.5 MIN: 72 MAX: 82
Internal Diameter	143.6 143.8 143.8 144 143.9 144 144.1 143.8 143.6 143.8 MIN: 141.85 MAX: 144.15
Thickness	3.96 3.95 3.96 MIN: 3.9 MAX: 4.1

EPA Approved Recycling

Non-Haz. Waste Rubber
collection for rubber recovery

Post Process Optional Washing Process



Tumble Wash – Water and Ceramic Stone

Refining surface area of product



Conventional Wash – Water

Sediment (dust) removal before coating - Customer requirements

Licensed Emission Point - SE1
Flow Proportional Composite Sampler
of process effluent to Sewer

Principle water consumption – Wash
Processes in each Business Unit

Post Process Optional Surface Coating



Surface Coating - Assembly Aids

Coatings include Graphite, Water-based Emulsions

Barcode control each part number by weight.

Proka yoke of fluid availability.

Environmental Activities -

Drum wipedown cloths disposed of as Haz. Waste

Proposed A-5 Gleitmo Coating Process – Prototype Workshop set-up



Surface Coating - Assembly aids

Coating Product – GLEITMO SFL

Coating measured by piece weight.
Poke yoke of fluid dispensing –



Proposed A-5 Emission Point
Type: VOC – low volume

Disposal of associated Hazardous
waste – gloves, wipedown cloths - by
Licensed contractor.