



Godrej

Application Dossier

PHARMACEUTICALS

Sub-Segments



ACTIVE PHARMACEUTICAL INGREDIENTS(APIs)



FORMULATIONS

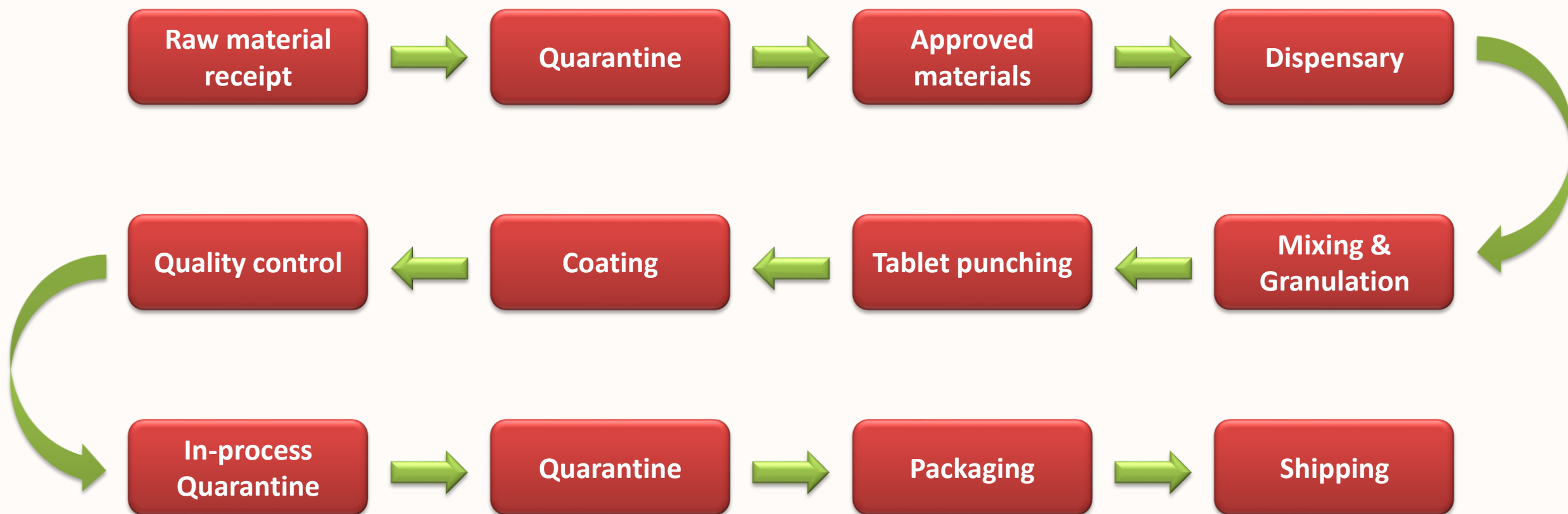


**CONTRACT RESEARCH AND
MANUFACTURING SERVICES
(CRAMS)**



BIOSIMILARS

Material Flow



We Understand You

Challenges

- Temperature controlled storage conditions
- Orderly storage compliance with labelling
- Comply with national and local regulations
- Access control for returns storage
- Clean & sterile
- Periodic stock reconciliation
- Environmental commitment

Our Value Proposition

- Infallible and secured cold storage solutions
- First expiry first out with 100% selectivity
- Design with OHSAS, FDA, GDP, GMP & GAMP complaint
- Storage system with audit trail
- Powder coated & easy to clean
- Automated inventory count and WMS integration
- Lead free & RoHS compliant

Application - 1

Raw material storage in pharmaceuticals manufacturing unit



API Starting Materials



APIs



Excipients & Bulk Drugs

Palletization of products



Recommended Solutions by Godrej

Very Narrow Aisle Pallet Racking



- Selectivity – 100% - FIFO
- Cubic space utilization up to 28%
- Vertical height utilization – 18 m
- Require highly skilled operators for storage and retrieval
- Throughput : ~20 pal/hr
- No honeycombing effects
- Lesser possibility of rack damage

Double Deep Pallet Racking



- Selectivity – 50% - FILO
- Cubic space utilization up to 28%
- Vertical height utilization – 14 m
- Require skilled operators for storage and retrieval
- Throughput : ~12 pal/hr
- 50% possibility of honeycombing
- Possibility of rack damage

Application - 2

Packaging material storage in pharmaceuticals manufacturing unit



Dosage Form



Primary Package



Secondary Package



Tertiary Package

Palletization of products



Recommended Solutions by Godrej

Selective Pallet racking + FLT/RT (Manual)



- 100 % Selectivity
- Throughout is comparatively higher than since wider aisles are used for pallet picking – 15 pallets per hour per MHE
- 100% Utilization of all pallet locations
- Count of pallets is to be done manually
- Highly people dependent and less skilled operation as the MHE is driven inside the rack
- Up to 16 metres

Drive in racking + FLT/RT (manual)



- Selectivity – 2 to 5%
- Throughout is comparative less since MHE is driven inside each bay. ~10 pallets per hour per MHE.
- High possibility of unutilized vacant positions due to large bay capacity and due to creation of vacant positions only at the retrieving end.
- Count of pallets is to be done manually
- Highly people dependent and skilled operation as the MHE is driven inside the rack
- Up to 10 metres

Shuttle racking + FLT/RT (semi automatic)



- Selectivity – 10 to 15%
- Handling of pallets inside the rack is by shuttles and hence it ensures high throughput (average 20 pallets per hour per shuttle)
- Lesser possibility of honey-combing effect as we retrieve the pallet, vacant positions are created at the rear end.
- Inventory count can be automated by the shuttle equipment
- Lesser man-power is used for put-away and picking of pallets using MHE
- Up to 14 metres

Application - 3

Finished goods storage in pharmaceuticals manufacturing unit



Tablets



Ointments



Liquid oral suspensions

Palletization of products



Recommended Solutions by Godrej

AS/RS Pallet Racking



- 100 % selectivity
- Yes – FEFO
- Throughput : ~30 pal/hr
- Cubic space utilization up to 30%
- Fully automated with WMS integration
- Automated operation. No manpower involved
- Upto 30 metres

VNA Pallet Racking



- 100 % selectivity
- Yes – FEFO
- Throughput : ~20 pal/hr
- Cubic space utilization up to 28%
- Not possible for WMS integration
- Man-power is used for put-away and picking of pallets using MHE
- Up to 18 metres



Mobile Pallet Racking



- 100 % selectivity
- Yes – FEFO
- Throughput : ~15 pal/hr
- Cubic space utilization up to 50%
- Semi-automatic possibility for WMS integration
- Man-power is used for put-away and picking of pallets using MHE
- Up to 12 metres



Application - 4

Sample storage in pharmaceuticals manufacturing unit



Samples

Palletization of products



Recommended Solutions by Godrej

Short span shelving system



- Due to shorter span, more locations are created in the same storage space
- High CBM utilization due to sleek panel design
- Each row is fixed with dedicated aisle enhancing air circulation
- Span ranges from 0.9m to 1.3m wide
- Possibility of having multi-picks at the same time

Long span shelving system



- Higher flexibility to create locations in a level due to longer span using dividers
- Option for Mesh decking and cladding for enhancing ventilation inside cold room
- Can be expanded vertically with MT option up to 12 meters
- Span ranges from 1.5m to 2.6m wide
- Multi variety option for walkway with perforations

Application - 5

Records storage in pharmaceuticals manufacturing unit



Documents



Palletization of products



Recommended Solutions by Godrej

Mobile shelving



- Bar coding to ease inventory tracking
- Mezzanine to be built for vertical space utilization
- Numeric pin lock – Restricted entry
- Up to 3.3 metres
- Only picking is possible in single aisles, hence lesser throughput compared to G+1 system

G+1 Mobile shelving



- Bar coding stickering to ease inventory tracking
- Mezzanine not required ,cost effective solution
- Numeric pin lock – Restricted entry
- Up to 5.5 metres
- Simultaneous picking is possible in both tiers, hence higher throughput



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