

Carlisle Fluid Technologies

2022 Wood Solutions Overview

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CARLISLE FLUID TECHNOLOGIES | CONFIDENTIAL



The Brands You Trust



BGK™ products deliver precision-engineered curing capabilities for a full range of coatings including liquid, powder, wax, UV and adhesives.



Binks® products boast innovative spray gun and air cap design along with industry leading pumps and controls.



DeVilbiss® products include low pressure manual and automatic spray guns and related spraying accessories. *DeVilbiss* products are widely acclaimed for ergonomics and innovative spray gun design.



Hosco® products deliver smooth bore, “cavity free” stainless steel fittings and accessories designed for use in paint circulating and application finishing systems.



ms® products include powder coating systems and equipment. *ms* is recognized throughout the world for quality, efficiency and durability.



Ransburg® manual and automatic electrostatic finishing products offer spray finishing solutions to industrial and automobile manufacturing markets.

Wood Industry Trends

- Substrate
 - MDF/HDF/Composite/Veneers
- Coatings Technology
 - 2K/High Solids/Waterbase/Raw Materials/Powder
- Applied Cost
 - Coating Cost/# Coats/TE
- Process Time
 - Stock Reductions/KD vs Assembled/Full Cure-Blocking
- Automation
 - Flatlines/Robotics/Footprint
- Color Palette
 - Consolidated Brands/Paint vs Stain/# Colors/Market Trends
- Custom Colors
 - Small Batches/Custom Cells/Color Change Integrity & Cost

Substrate

MDF/HDF/Composite/Veneers

MDF/HDF/Composite

- Wide range of densities affect machinability/porosity/smoothness
- Added steps for prime/fill/sanding
- Less heat sensitive
- More stable, ie expansion/contraction
- No end grain or grain patterns

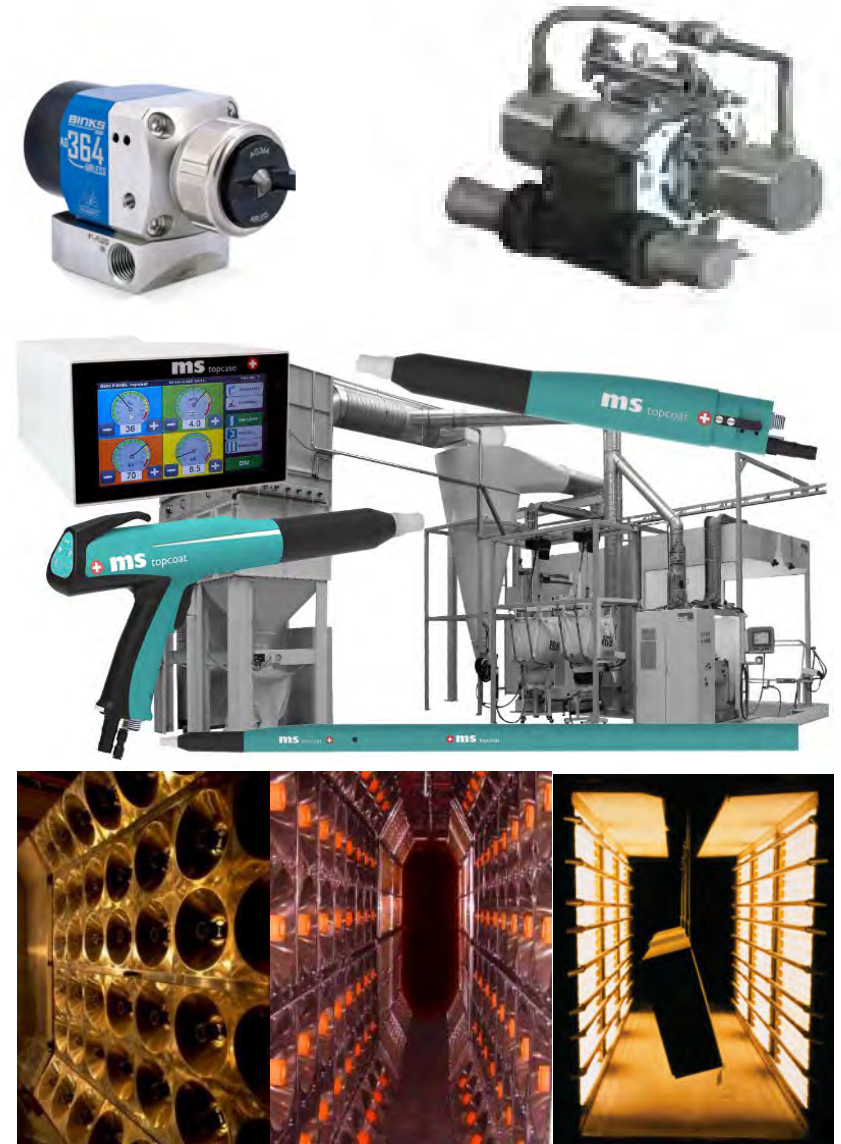
Veneers

- Grain patterns variation
- Veneer adhesives reactivity
- Heat sensitivity
- Stainability vs hardwood



Solutions Available

- MDF/HDF
 - Flatline systems spraying high fill primers with airless/air assist pressures at multiple locations
 - Coatings supplied by special high flow/pressure pumps
 - Powder coated MDF/HDF is very strong in many markets
 - IR cure is essential for aggressive cure of higher films
 - Hybrid systems use powder prime and liquid enamels for both performance and appearance advantages
- Veneers
 - Air spray, airless, and air assist methods of spraying spray no wipe stains evens color tones while still adding depth and richness of color
 - IR cure will focus energy on the surface/finish instead of heating the core and adhesive beneath the veneers



Coatings Technology

2K/High Solids/Waterbase/Raw Materials/Powder

- More 2K coatings in use
 - Improved cure and performance
- Higher solids coatings upgrades
 - Reduce coating layers/process steps
- Waterbase chemistries replacing solvent base
 - Environmental marketability/responsibility and regulatory limitations
- Recent raw material challenges requiring formulation changes/adjustments/substitutions
 - Coating properties may have changed some
- Growth of powder coat on wood
 - Low temperature and UV cure



Solutions Available

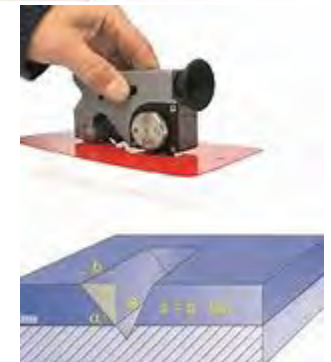
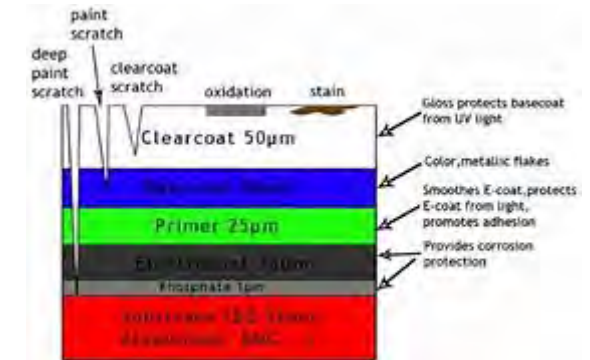
- Scalable supply solutions for a wide variety of viscosities, flow rates, and pressure ranges
 - Waterbase and solvent base solutions
- Scalable 2K/3K mixing systems both manual and integrated equipment capable
 - Allow for unique recipes per coating supplied
 - 3K option allows for reducers added live as needed
 - Large memory to store many recipes
 - Easy to change or update as needed
 - Records by job if needed
- Versatile spraying solutions
 - Manual and automatic
 - Air spray, airless, and air assist
- Powder coat on wood, MDF, or HDF, manual and automatic
 - No VOC's
 - Easy cleanup
 - Small footprint
 - Non-regulated waste
- IR cure booster ovens to add cure energy



Applied Cost

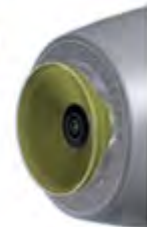
Coating Cost/# Coats/TE

- As chemistry is upgraded, cost increases
- Raw materials costs increased
- Paints cost more than stains
- Film thickness and solids per coat increases
- # of coats reduced whenever possible
- Less coating available, so usage is now more important
- Coating used and cost per square foot a key measurable



Solutions Available

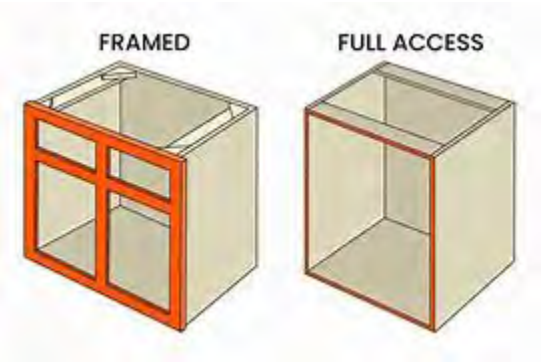
- Optimal flow controls technology using 2K/3K systems
 - Versatile monitoring and control of flow rates
 - Coating usage efficiencies for 2K mix only on demand
 - Usage tracking by applicator/fluid panel/shift/color/etc
- Optimal application equipment specification
 - Air Spray
 - Air Assist
 - Airless
 - Electrostatics
 - Air spray, air assist, airless
 - Disc
 - Bell



Process Time

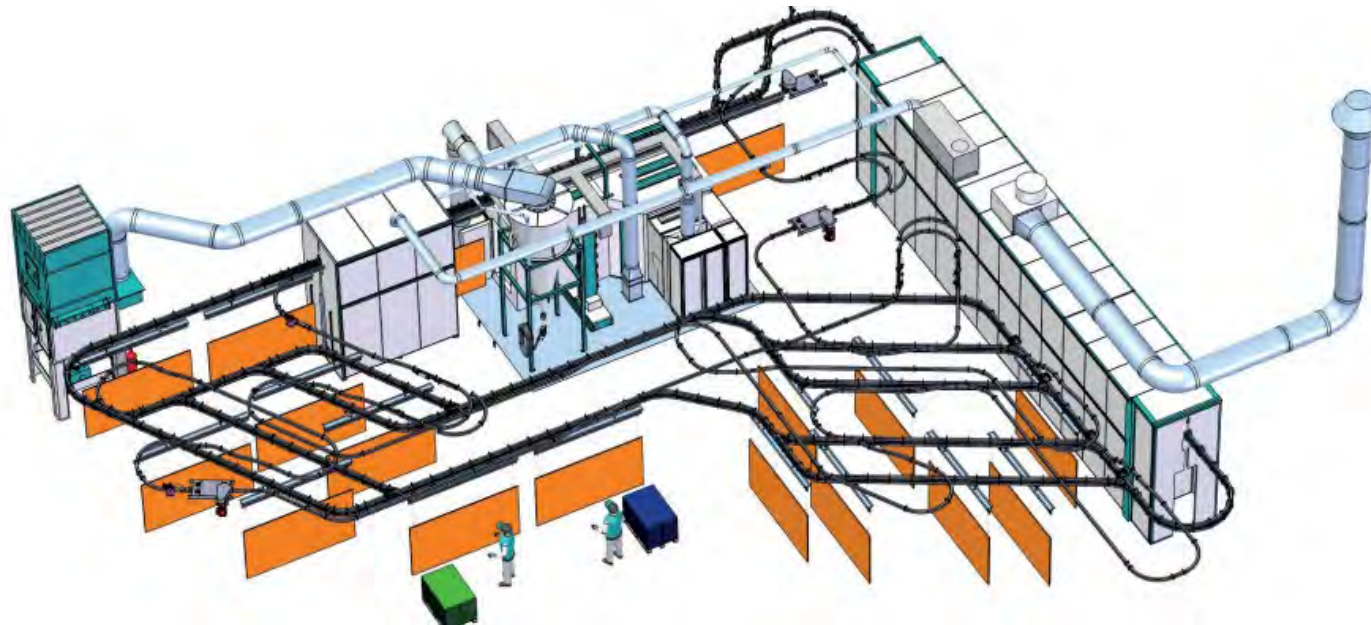
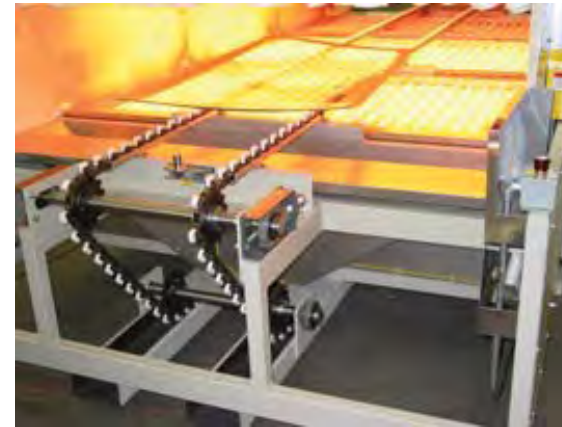
Stock Reductions/KD vs Assembled/Full Cure

- Many more manufacturers don't warehouse; they build to order
- Big box stores don't sell as much stock cabinetry
- Home storage has grown dramatically
- Markets have changed and lead times are very short
- Knock Down(KD) flat pack cabinets are very popular
- Many manufacturers box right off the finish lines
- All components are stackable to save space



Solutions Available

- IR Booster Ovens
 - Some before, some after existing cure equipment
 - Stain ovens not curing paints well need help
- Powder Coat Systems
 - Full cure at offload
 - Cool down and pack!



Automation Flatlines/Robotics/Footprint

- Global labor shortages and turnover significant
- Sprayers training very lacking; few resources
- Improved coating technology tightens application parameters
- Overall process controls and efficiencies improve with automation
- Production capacity is significantly higher
- Transfer Efficiency is higher; applied cost lower
- Cure technology improves

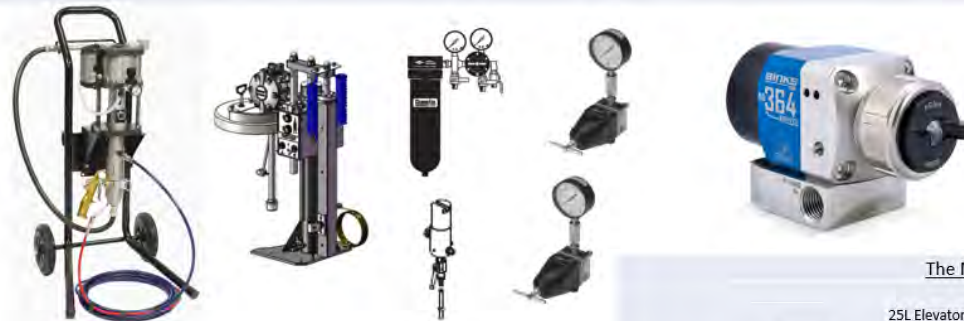


Solutions Available

Pkg 1

4 Gun Medium Pressure Cell

	Description	Part #	QTY
Supply	MX1212 Pump Cart System	MX1212UC-ODC0000	1
	25L Elevator, or	DE-05DD06CP-01	1
	5 Gallon Agitator Lid	41-3312-S	0
Control	Air Filter/Regulator	HFRL-509	1
	Fluid Filter	0115-010326	1
	HP BPR(300-2000, 3000)	84-421	1
	MP BPR Spring(100-900, 2000)	84-503	1
	Fluid Regulator	84-520	1
Apply	Automatic Airless Gun, or	AG364-0000-T	4
	Automatic Air Assist Gun	AG363-AA10-S	0
	AAA Fine Finish Tip	RS-1517-F	4



Pkg 6

The Medium Shop/Medium Pressure 2K Cell

	Description	Part #	QTY
Supply	Coatings Pump	MX1212UC-ODC1T00	1
	Flush Pump	MX1212PP	1
	Catalyst/Activator Pump	MX412UCA-W111	1
Control	210L Elevator	DE-10DM05AF-04	1
	Air Filter/Regulator	HFRL-509	1
	Fluid Filter	0115-010326	1
	Fluid Regulator	84-420	1
	RM2 HP Manual 2K		1
Apply	Automatic Airless Gun	AG364-0000-T	4
	AAA Fine Finish Tip	RS-1517-F	4



Pkg 4

The Medium-Large Shop/Color Change Low Pressure Cell

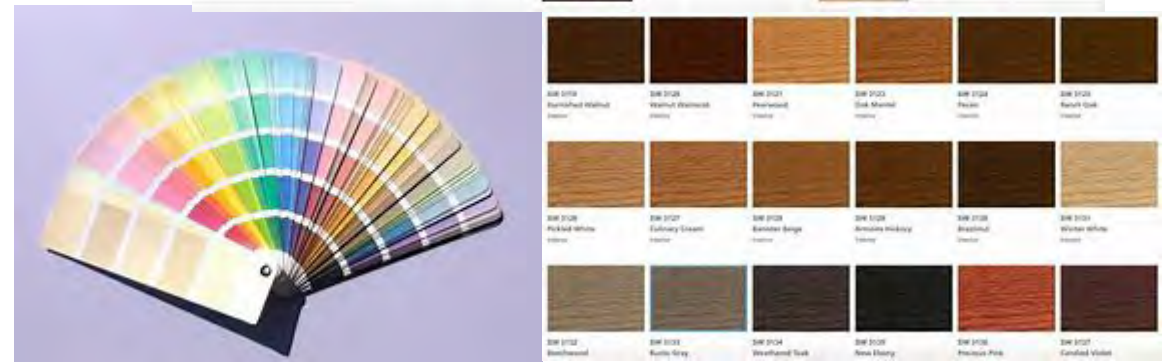
	Description	Part #	QTY
Supply	25L Elevator, or	DE-05DD06LP-01	4
	1/2" SST Diaphragm Pump	41-818830	0
	5 Gallon Agitator Lid	41-3312-S	0
Control	Flush Pump	41-818830	1
	Air Filter/Regulator	HFRL-509	1
	Fluid Filter	TSF-6-100(Hosco)	1
	Fluid Regulator	84-320	1
	Ransburg Low Pressure 4 CCV	CCV-6104-100	1
Apply	Automatic Air Spray Gun	AG362U-HV30-10-LFP	4



Color Palette

Consolidated Brands/Paint vs Stain/# Colors/Market Trends

- Significant mergers and acquisitions consolidated brands but kept most colors with each
- Manufacturing consolidated but has to run new colors and more colors on different finish lines
- Paint 15 years ago 20% of production, now 70%
- Many lines made to cure stain, not paint
- Color trends more closely follow furniture, and change more often



Custom Colors

Small Batches/Custom Cells/Color Change Integrity & Cost

- Larger shops required to offer custom colors
- Colors mixed and made onsite or supplied locally within 48 hours to run production
- Standard colors in drums vs custom in 5's/gallon cans
- Coatings may differ from standard production and require different 2K ratios, application settings/film, and cure
- Equipment separate/dedicated to quick color change
- Customers are much more sensitive to color variation; color tolerances much tighter
- Coating cost is significantly higher, so efficiency is critical



Solutions Available

- DeKups System
 - 3, 9, 24, and 34 ounce options
 - 200, 300, 600m barrel filter options
 - 125, 200m disk filter options
- Snap N Flow System
 - 15, 30 oz. mixing cups
 - 125, 200 micron lids
 - Shaker rings/storage lids
- Quick Disconnect Fittings
- Manual and automated color control packages
 - Low pressure
 - Medium pressure
 - Color valve stacks
 - Piggable systems



Carlisle Has Solutions!

Industry and Market Research, using
Voice Of The Customer, Designer, Engineer,
Distributor, and Integrator



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RANSBURG
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Thank you!

Questions???

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