

# Comprehensive graphics printing portfolio (GSB)

Providing innovative printing applications through strong intellectual property



Proprietary printing technologies

PageWide

Liquid Electro Photography (LEP)

Piezo (PIJ)

Thermal Inkjet (TIJ)

Thermal Inkjet (TIJ) & PageWide

Thermal Inkjet (TIJ)

- Technical design
- Technical production
- Signage
- Decoration
- Photos
- Packaging
- Direct mail
- Info prints
- Marketing collateral
- Publishing

## Applications



# GSB FOCUSED SITES

 Graphics Experience Center

 HP PageWide Industrial (PWP)

 HP Indigo

 HP PageWide Industrial (Scitex)

 HP Large Format Production

 HP Large Format Design

 HP Specialty Printing Systems



# CORRUGATED PACKAGING PORTFOLIO

## Pre-printing



HP PageWide T1100 Press series



HP PageWide T400S Press

## Post-printing



HP PageWide C500 Press



HP Scitex 17000 / 15500 Corrugated Press



# Inkjet technology and design parameters

## Technological requirements and design/development parameters

### Thermal inkjet technology

- 1,200 nozzles per printhead (high volume, PWA), each nozzle ~1/3<sup>rd</sup> the width of a human hair
- Each nozzle fires 36,000 drops per second (one drop each 2 million<sup>ths</sup> of a second)
- Firing chamber heats to ~650° F with each drop cycle
- Technology itself is not tolerant of contaminants
- <https://www.youtube.com/watch?v=xPV3ZWHTzmo>

### Design parameters

- Design for Environment (DfE) criteria in place to guide HP-developed inks
- Extensive assessment of ink ingredients to ensure
  - Safety for the user
  - Safety for the environment
  - Compliance with all relevant regulations WW
- Additionally, for “vertical markets”
  - Vertical markets include: Food contact materials, textiles, medical devices, orthodontia, etc.
  - Extensive IAS and NIAS assessments
    - IAS: Intentionally Added Substances
    - NIAS: Not Intentionally Added Substances
  - Statements of Compliance for defined use cases
- Also have General Specifications for the Environment (GSE) criteria in place for all materials supplied to HP
- Both DfE and GSE take end-use customer needs into account (major brands, NGO’s, etc.)

# HP's GSE criteria

General Specifications for the Environment – requirements for all materials used in HP products

Type	GSE Identification Number	GSE Restriction in HP Inks, Coatings, Priming Agents, Maintenance Fluids, and Non-Ink Formulations
Dioxins treated as PCBs	980408-79	Not intentionally added, < 0.1 ppm if incidentally present
PCBs	980408-79	Not intentionally added, < 0.1 ppm if incidentally present
PAHs	130604-79	Contribution of < 0.5 ppm of any of the eight listed PAHs in the final formulation
Carcinogens	180625-31	Not intentionally added
Flame retardant, polybrominated biphenyls (PBBs)	980408-10	Not intentionally added and 1000 ppm
Restricted azo colorants that form aromatic amines	180625-10	Restricted Azo Colorants are Not Used



THANK YOU