
TABLE OF CONTENTS

I. Executive Summary	1
II. Economic and Population Drivers.....	5
A. North American Economic Growth	6
1. United States.....	7
2. Canada.....	8
3. Mexico	9
4. Country Comparison.....	11
B. North American Population.....	13
1. Age Groups.....	15
Babies and Toddlers (Age 0 – 4 Years).....	15
Females Aged 13 – 51.....	18
The Elderly (65+).....	20
III. North American Nonwoven Demand	23
A. Disposable Applications Demand	29
1. Absorbent Hygiene	34
Consumer	37
Baby Diapers and Training Pants.....	40
Incontinence Products	47
Feminine Care	56
Institutional	61
The Effect of COVID19 on Adult Incontinence.....	61
2. Filtration	67
Air Filtration	76
Industrial Air	81
Transportation.....	85
Vacuum Cleaners	103

Transportation	109
Industrial / Manufacturing	111
Water	112
Biotechnology/ Pharmaceuticals	112
3. Wipes	114
Private Label Brands	119
Consumer Wipes	121
Baby	126
Home Care	129
Personal Care	135
Industrial and Institutional Wipes	141
Industrial/Commercial: General	145
The Wiper Rule	147
Industrial: Specialty	148
Institutional: Food Service and Hospitality	150
Institutional: Healthcare/Medical	153
4. Medical/Surgical	156
Surgical Packs and Gowns	169
Gown Type and Critical Zones	171
Other Apparel	173
Sterile Packaging/Sterilization Wrap	175
Wound Care	178
5. Other Disposable Applications	181
Personal Protective Equipment	182
Sorbents	185
Cleaning/Scrub and Abrasive/Polishing Discs/Pads	186
Packaging	187
B. Long-Life Durable Applications Demand	191
1. Vehicle Construction	197
Nonwoven Materials	201
Light Vehicle Sales	203

United States Vehicle Sales	203
Electric Vehicles and How it Affects the Nonwovens Industry	203
Canada Automobile Sales	204
Mexico Automobile Sales	204
Light Vehicle Production	205
Other Transportation Modes	213
2. Building Construction	216
Building Construction Markets — Residential & Nonresidential..	218
New Residential Starts	220
New and Existing-Home Sales...Repair & Remodel.....	223
Nonresidential-Building Construction	228
Nonwovens in Building Construction.....	231
Roofing	234
Underlayment	238
Other Building Construction Materials	241
3.Home and Office Furnishings	244
Floor Coverings	251
Woven and Tufted Carpet Backing	251
Underpads/Underlay and Floor Protectors.....	254
Floor Entrance/Walk-Off Mats	254
Upholstered Furnishing.....	256
Bedding	258
Other Furnishings.....	263
4.Geosynthetics.....	268
Geotextiles for Road Applications	275
Geotextiles for Other Applications	277
Cured-in-Place Pipe	282
Agricultural Crop Covers/Shading	286
Landscape Fabrics	288
Root Bags	288
5.Apparel	290

6.Other Long-Life Durable Applications 297

IV. Final Thoughts and Outlook Summary..... 303

V. Appendix..... 304

 Methodology..... 304

 Demand Model.....304

 Nonwoven Material Definitions 308

 Nonwoven Definition308

 Forming Processes 308

 Drylaid.....308

 Spunlaid310

 Wetlaid311

 Airlaid Short Fiber311

Nonwoven End Use Classifications and Definitions 312

 Disposables..... 312

 Long-Life Durables 315