# TABLE OF CONTENTS

**I. Executive Summary** .......................................................................................................................... 1

**II. Economic and Population Drivers** ............................................................................................... 5

A. North American Economic Growth ................................................................................................. 7
   1. United States .......................................................................................................................... 7
   2. Canada ............................................................................................................................... 10
   3. Mexico ............................................................................................................................... 11
   4. Country Comparison .......................................................................................................... 12

B. North American Population ........................................................................................................... 14
   1. Age Cohorts ...................................................................................................................... 15
      Babies and Toddlers (Age 0 – 4 Years) ........................................................................... 16
      Females Age 13 – 51 ...................................................................................................... 18
      The Elderly (65+) .......................................................................................................... 19
   2. Population Pyramids .......................................................................................................... 21

**III. North American Nonwoven Demand** ....................................................................................... 23

A. Disposable Applications Demand ................................................................................................. 30
   1. Absorbent Hygiene .......................................................................................................... 38
      Consumer ....................................................................................................................... 41
      Baby Diapers and Training Pants .................................................................................. 43
      Incontinence Products ................................................................................................. 50
      Feminine Hygiene ......................................................................................................... 58
      Institutional ................................................................................................................... 62
   2. Wipes .................................................................................................................................. 67
      Consumer Wipes ........................................................................................................... 74
      Baby ................................................................................................................................ 79
      Home Care ................................................................................................................... 82
      Personal Care ............................................................................................................... 89
### Industrial and Institutional Wipes
- Industrial/Commercial: General
- Industrial: Specialty
- Institutional: Food Service and Hospitality
- Institutional: Healthcare/Medical

### 3. Filtration
- Air Filtration
  - Industrial Air
  - Transportation
  - Commercial Air Systems
  - Residential Locations
  - Personal Protection
  - Vacuum Cleaner Bags
- Liquid Filtration
  - Transportation
  - Industrial / Manufacturing
  - Water

### 4. Medical/Surgical
- Surgical Packs and Gowns
- Other Apparel
- Sterile Packaging/Sterilization Wrap
- Wound Care

### 5. Other Disposable Applications
- Personal Protective Equipment
- Sorbents
- Cleaning/Scrub and Abrasive/Polishing Discs/Pads
- Packaging

### B. Durable Applications Demand
#### 1. Building Construction
- Building Construction Markets — Residential and Nonresidential
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Residential Starts</td>
<td>195</td>
</tr>
<tr>
<td>New and Existing-Home Sales... Repair &amp; Remodel</td>
<td>198</td>
</tr>
<tr>
<td>Nonresidential-Building Construction</td>
<td>204</td>
</tr>
<tr>
<td>Nonwovens in Building Construction</td>
<td>206</td>
</tr>
<tr>
<td>Roofing</td>
<td>209</td>
</tr>
<tr>
<td>Underlayment</td>
<td>213</td>
</tr>
<tr>
<td>Other Building Construction Materials</td>
<td>215</td>
</tr>
<tr>
<td>2. Home and Office Furnishings</td>
<td>217</td>
</tr>
<tr>
<td>Floor Coverings</td>
<td>222</td>
</tr>
<tr>
<td>Woven and Tufted Carpet Backing</td>
<td>223</td>
</tr>
<tr>
<td>Underpads/Underlay and Floor Protectors</td>
<td>226</td>
</tr>
<tr>
<td>Floor Entrance/Walk-Off Mats</td>
<td>226</td>
</tr>
<tr>
<td>Upholstered Furnishing</td>
<td>228</td>
</tr>
<tr>
<td>Bedding</td>
<td>230</td>
</tr>
<tr>
<td>Other Furnishings</td>
<td>234</td>
</tr>
<tr>
<td>3. Vehicle Construction</td>
<td>238</td>
</tr>
<tr>
<td>Light Vehicles</td>
<td>242</td>
</tr>
<tr>
<td>Nonwovens in Vehicle Construction</td>
<td>250</td>
</tr>
<tr>
<td>Other Transportation Modes</td>
<td>256</td>
</tr>
<tr>
<td>4. Geosynthetics</td>
<td>258</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>261</td>
</tr>
<tr>
<td>Geotextiles for Road Applications</td>
<td>264</td>
</tr>
<tr>
<td>Geotextiles for Other Applications</td>
<td>266</td>
</tr>
<tr>
<td>Cured-in-Place Pipe</td>
<td>270</td>
</tr>
<tr>
<td>Agriculture</td>
<td>273</td>
</tr>
<tr>
<td>Agricultural Crop Covers/Shading</td>
<td>274</td>
</tr>
<tr>
<td>Landscape Fabrics</td>
<td>275</td>
</tr>
<tr>
<td>Root Bags</td>
<td>275</td>
</tr>
<tr>
<td>5. Apparel</td>
<td>277</td>
</tr>
<tr>
<td>6. Other Durable Applications</td>
<td>283</td>
</tr>
</tbody>
</table>
IV. North American Nonwoven Supply ................................................................. 288

A. Capacity ........................................................................................................... 288
   1. Historical Perspective ................................................................................... 289
   2. Previous Years’ Comparisons ..................................................................... 291

B. Production ........................................................................................................ 297
   1. Historical Perspective ................................................................................... 298
   2. Previous Years’ Comparisons ..................................................................... 301

C. Trade Flows ...................................................................................................... 304
   1. United States Trade .................................................................................... 304
   2. North American Intra-Region Trade .......................................................... 306
      Mexico .......................................................................................................... 306
      Canada ........................................................................................................ 308
   3. North America Inter-Region Trade .............................................................. 311
      Exports ........................................................................................................ 311
      Imports ........................................................................................................ 315

D. Overall North American Trade Flows ............................................................ 320

V. Final Thoughts .................................................................................................. 321

VI. Appendix ......................................................................................................... 322

A. Methodology .................................................................................................... 322
   1. Demand Model ............................................................................................ 322
   2. Supply Model .............................................................................................. 324

B. Nonwoven Material Definitions ...................................................................... 325

C. Nonwoven End Use Classifications and Definitions ....................................... 328
LIST OF FIGURES

II. Economic and Population Drivers

II-1 Relative Sizes of North American Economies, 2016 ........................................ 7
II-2 Annual Growth of Real GDP in the United States, 2011–2021 ......................... 8
II-3 Annual Growth of Real GDP in Canada, 2011–2021 ...................................... 10
II-4 Annual Growth of Real GDP in Mexico, 2011–2021 ..................................... 12
II-6 Relative Sizes of North American Populations, 2016 ................................. 14
II-7 North American Population by Country, Historical and Forecast ............... 15
II-8 Total Number of Babies and Toddlers (0–4 Years) by Country, Historical and Forecast .......................................................... 17
II-9 Total Number Females (13–51 Years) by Country, Historical and Forecast .... 18
II-10 Total Population and Elderly (65+ Years) by Country, Historical and Forecast .... 20
II-11 U.S./Canada Population Pyramid, 2011 ............................................... 21
II-12 Mexico Population Pyramid, 2011 ....................................................... 21
II-13 U.S./Canada Population Pyramid, 2016 ............................................... 22
II-14 Mexico Population Pyramid, 2016 ....................................................... 22
II-16 Mexico Population Pyramid, 2021f ....................................................... 22

III. North American Nonwoven Demand

III-1 North American Nonwovens Market, Dollar Sales, 2016 ......................... 24
III-2 North American Nonwovens Market, Square Meters, 2016 ....................... 25
III-3 North American Nonwovens Market, Tonnage, 2016 ....................... 25
III-4 North American Nonwoven Material Consumption, 2016 .................... 26
III-5 North American Nonwoven Material Consumption, Historical and Forecast .... 27
III-6 North American Nonwovens Square Meters Usage Market Sizes and Growth ...... 28
III-7 North American Nonwovens Tonnage Usage Market Sizes and Growth ......... 29
III.A. Disposable Applications Demand

III.A-1 North American Disposable Nonwovens Market, End-Use Dollar Sales, Historical and Forecast................................................................. 30

III.A-2 North American Disposable Nonwovens Market, End-Use Unit Sales, Historical and Forecast................................................................. 32

III.A-3 Disposable Nonwoven Material Consumption by End-Use, 2016 .................. 33

III.A-4 Disposable Nonwoven Material Consumption, Historical and Forecast .......... 35

III.A-5 North American Disposable Nonwovens Square Meter Usage Market Sizes and Growth by End-Use................................................................. 36

III.A-6 North American Disposable Nonwovens Tonnage Usage Market Sizes and Growth by End-Use................................................................. 37

III.A-7 North American Absorbent Hygiene Market, Category Dollar Sales, Historical and Forecast................................................................. 40

III.A-8 North American Absorbent Hygiene Market, Category Unit Sales, Historical and Forecast................................................................. 42

III.A-9 Consumer Absorbent Hygiene Nonwoven Material Consumption by Category, 2016 ................................................................. 43

III.A-10 Total Number of U.S. Births, 1950–2021 ................................................................. 44

III.A-11 Total Potential Children in Diapers, United States and Canada, Historical and Forecast................................................................. 45

III.A-12 Total Potential Children in Diapers, Mexico, Historical and Forecast .......... 45

III.A-13 Disposable Baby Diapers and Training Pants Demand, Units, Historical and Forecast................................................................. 47

III.A-14 Baby Diapers and Training Pants Nonwoven Material Consumption, Historical and Forecast................................................................. 50

III.A-15 Adult Population (18–64 years and Non-Institutionalized 65+ years) Total Population and Population Impacted by Incontinence Issues........... 52

III.A-16 Adult Population (18–64 years and Non-Institutionalized 65+ years) Impacted by Incontinence Issues and Product Usage.................................. 54

III.A-17 North American Consumer Incontinence Market, Category Unit Sales, Historical and Forecast................................................................. 55

III.A-18 Consumer Incontinence Product Material Consumption, Historical and Forecast................................................................. 57
IIIA-19 Female Population (13-51 years) Total Population and Disposable Feminine Hygiene Product Usage .......................................................... 58

IIIA-20 Disposable Feminine Hygiene Product Demand, Units, Historical and Forecast .......................................................... 59

IIIA-21 Consumer Feminine Hygiene Product Material Consumption, Historical and Forecast .......................................................... 61

IIIA-22 Institutionalized Adult Population (65+ years) Total Population and Population Impacted by Incontinence Issues ......................... 63

IIIA-23 North American Institutionalized Incontinence Market, Category Unit Sales, Historical and Forecast .................................................. 64

IIIA-24 Institutional Absorbent Hygiene Product Material Consumption, Historical and Forecast .......................................................... 66

IIIA-25 North American Wipes Market Dollar Sales to End Users, 2016 .................................................. 68

IIIA-26 North American Wipes Market Unit Sales to End Users, 2016 .................................................. 68

IIIA-27 North American Wipes Market, Segment Dollar Sales, Historical and Forecast .................................................. 70

IIIA-28 North American Wipes Market, Segment Unit Sales, Historical and Forecast .................................................. 72

IIIA-29 Wipes Nonwoven Material Consumption, Historical and Forecast .................................................. 74

IIIA-30 North American Consumer Wipes Market, Category Dollar Sales, Historical and Forecast .................................................. 76

IIIA-31 North American Consumer Wipes Market, Category Unit Sales, Historical and Forecast .................................................. 76

IIIA-32 Consumer Wipes Nonwoven Material Consumption by Category, 2016 .................................................. 78

IIIA-33 North American Baby Wipes Market, Category Unit Sales, Historical and Forecast .................................................. 80

IIIA-34 Baby Wipes Nonwoven Material Consumption, Historical and Forecast .................................................. 81

IIIA-35 North American Home Care Wipes Market, Category Unit Sales, Historical and Forecast .................................................. 83

IIIA-36 Home Care Wipes Nonwoven Material Consumption, Historical and Forecast .................................................. 85

IIIA-37 North American Personal Care Wipes Market, Category Unit Sales, Historical and Forecast .................................................. 90

IIIA-38 Personal Care Wipes Nonwoven Material Consumption, Historical and Forecast .................................................. 92
IIIA-57 Transportation Air Filtration Nonwoven Material Consumption, Historical and Forecast ................................................................. 134

IIIA-58 Commercial Air Systems Air Filtration Nonwoven Material Consumption Historical and Forecast ............................................................... 137

IIIA-59 Residential Locations Air Filtration Nonwoven Material Consumption Historical and Forecast ............................................................... 141

IIIA-60 Personal Protection Air Filtration Nonwoven Material Consumption, Historical and Forecast ................................................................. 144

IIIA-61 Vacuum Cleaner Bag Air Filtration Nonwoven Material Consumption, Historical and Forecast ................................................................. 146

IIIA-62 Liquid Filtration Nonwoven Material Consumption by Category, 2016 .... 150

IIIA-63 Liquid Filtration Nonwoven Material Consumption, Historical and Forecast .... 151

IIIA-64 North American Disposable Medical/Surgical Market, Category Dollar Sales, 2016 ................................................................. 156

IIIA-65 National and State Healthcare-Associated Infections Progress Report, 2016 .... 161

IIIA-66 Medical/Surgical Nonwoven Material Consumption by Category, 2016 .... 162

IIIA-67 North American Medical/Surgical Market, Category Dollar Sales, Historical and Forecast ................................................................. 163

IIIA-68 Medical/Surgical Nonwoven Material Consumption, Historical and Forecast .... 165

IIIA-69 Surgical Packs and Gowns Nonwoven Material Consumption, Historical and Forecast ................................................................. 167

IIIA-70 Medical and Surgical Other Apparel Nonwoven Material Consumption, Historical and Forecast ................................................................. 169

IIIA-71 Medical and Surgical Sterile Packaging and Sterilization Wrap Nonwoven Material Consumption, Historical and Forecast ................................................................. 171

IIIA-72 Medical and Surgical Wound Care Nonwoven Material Consumption, Historical and Forecast ................................................................. 174

IIIA-73 North American Other Disposable Applications Market, Category Dollar Sales, Historical and Forecast ................................................................. 177

IIIA-74 Other Disposable Applications Nonwoven Material Consumption, Historical and Forecast ................................................................. 183
IIIB. **Durable Applications Demand**

IIIB-1 North American Durable Nonwovens Market, End-Use  
Tonnage Consumption, Historical and Forecast ................................. 186

IIIB-2 North American Durable Nonwovens Market, End-Use  
Square Meter Consumption, Historical and Forecast ............................. 187

IIIB-3 Durable Nonwoven Material Consumption by End-Use, 2016 .......... 188

IIIB-4 Durable Nonwoven Material Consumption, Historical and Forecast .... 189

IIIB-5 North American Durable Nonwovens Tonnage Usage  
Market Sizes and Growth by End-Use, .................................................... 190

IIIB-6 North American Durable Nonwovens Square Meter Usage  
Market Sizes and Growth by End-Use .................................................... 191

IIIB-7 United States Value of Building Construction Put in Place, 2002–2016 ...... 194


IIIB-9 U.S. and Canada New Residential Starts, Historical and Forecast ............. 197

IIIB-10 U.S. Housing Sales, 2000–2016 ..................................................... 200

IIIB-11 U.S. Housing Sales, Historical and Forecast ....................................... 201

IIIB-12 U.S. Home Improvement and Repair Spending, Historical and Forecast ........ 203

IIIB-13 U.S. Home Improvement Spending, 2010–2015 .................................. 204

IIIB-14 United States Value of Nonresidential Building Construction Put in Place,  
Historical and Forecast ........................................................................ 205

IIIB-15 Building Construction Nonwoven Material Consumption  
by Category, 2016 ............................................................................. 206

IIIB-16 Building Construction Nonwoven Material Consumption,  
Historical and Forecast ......................................................................... 208

IIIB-17 Building Construction – Roofing Nonwoven Material Consumption,  
Historical and Forecast ......................................................................... 211

IIIB-18 Building Construction – Underlayment Nonwoven Material Consumption,  
Historical and Forecast ......................................................................... 214

IIIB-19 Building Construction – Other Materials Nonwoven Material Consumption,  
Historical and Forecast ......................................................................... 216

IIIB-20 U.S. Real Gross Domestic Product Components, Historical and Forecast .... 219
IIIB-21 Home and Office Furnishings Nonwoven Material Consumption by Category, 2016 ................................................................. 221
IIIB-22 Home and Office Furnishings Nonwoven Material Consumption, Historical and Forecast ................................................................. 222
IIIB-23 Home and Office Furnishings - Floor Coverings Nonwoven Material Consumption by Category, 2016 ........................................ 224
IIIB-24 Home and Office Furnishings - Floor Coverings Nonwoven Material Consumption, Historical and Forecast .............................. 227
IIIB-25 Home and Office Furnishings - Upholstered Furniture Nonwoven Material Consumption, Historical and Forecast ...................... 230
IIIB-26 Home and Office Furnishings – Bedding Nonwoven Material Consumption by Category, 2016 ......................................................... 232
IIIB-27 Home and Office Furnishings – Bedding Nonwoven Material Consumption, Historical and Forecast ................................................ 233
IIIB-28 Home and Office Furnishings - Other Furnishings Nonwoven Material Consumption by Category, 2016 ........................................ 235
IIIB-29 Home and Office Furnishings - Other Furnishings Nonwoven Material Consumption, Historical and Forecast .............................. 237
IIIB-30 Vehicle Construction Nonwoven Material Consumption by Category, 2016 ...... 240
IIIB-31 Vehicle Construction Nonwoven Material Consumption, Historical and Forecast ................................................................. 241
IIIB-32 North American Vehicle Sales, Historical and Forecast .............................................. 243
IIIB-33 North American Light Vehicle Production, Historical and Forecast .................. 245
IIIB-34 Vehicle Construction Automobiles and Light Truck Nonwoven Material Consumption, Historical and Forecast ...................... 254
IIIB-35 Vehicle Construction - Other Transportation Modes Nonwoven Material Consumption, Historical and Forecast ...................... 257
IIIB-36 Geosynthetics Nonwoven Material Consumption by Category, 2016 ................. 259
IIIB-37 Geosynthetics Nonwoven Material Consumption, Historical and Forecast ........ 260
IIIB-38 United States Value of Nonresidential Construction Put in Place, Historical and Forecast ............................................................. 262
IIIB-39 Geosynthetics – Civil Engineering Nonwoven Material Consumption by Category, 2016 ................................................................. 263
IIIB-40 Geosynthetics – Civil Engineering Nonwoven Material Consumption, Historical and Forecast ........................................................................................................... 272
IIIB-41 Geosynthetics – Agriculture Nonwoven Material Consumption by Category, 2016 ................................................................................................................ 273
IIIB-42 Geosynthetics – Agriculture Nonwoven Material Consumption, Historical and Forecast ........................................................................................................... 276
IIIB-43 Apparel Nonwoven Material Consumption, Historical and Forecast .............. 282
IIIB-44 Other Disposable Applications Material Consumption, Historical and Forecast .................................................................................................................... 287

IV. North American Nonwoven Supply

IV-1 Capacity by Process, Tonnes, 2016 ..................................................................... 288
IV-2 Capacity by Region, Tonnes, 2016 ..................................................................... 288
IV-3 North American Capacity by Process, Tonnes, 1990–2016, 5-Year Periods ...... 290
IV-4 North American Capacity by Process, Tonnes, 2010–2016, Yearly ................. 292
IV-5 Capacity by Detailed Process, Tonnes, 2016 ..................................................... 293
IV-7 North American Capacity, Production and Operating Rate, Tonnes 2005, 2010, 2016 .................................................................................................................. 299
IV-9 North American Capacity, Production and Operating Rate, Tonnes, 2013–2016 .................................................................................................................. 301
IV-10 North American Capacity, Production and Operating Rate by Process, Tonnes, 2016–2016 ................................................................................................. 303
IV-14 U.S. Nonwoven Roll Goods Imports from Mexico by Weight, Tonnes, 2006–2016 ................................................................................................................... 308

IV-17  U.S. Nonwoven Roll Goods Imports from Canada by Weight, Tonnes, 2006–2016 ................................................................. 310


IV-25  2016 North American Nonwoven Rolled Goods Trade Flow by Region Map ...... 320
# LIST OF TABLES

## II. Economic and Population Drivers

**II-1** Annual Growth of Real GDP in North America by Country, Historical and Forecast ................................. 13

## III. North American Nonwoven Demand

**III-1** North American Nonwoven Market Nonwoven Material Consumption by Disposable and Durable, Historical and Forecast .................................................. 25

## IIIA. Disposable Applications Demand

**IIIA-1** North American Disposable Nonwoven Markets
Sales and Units by End-Use, Historical and Forecast ......................... 31

**IIIA-2** North American Disposable Nonwoven Markets
Nonwoven Material Consumption by End-Use, Historical and Forecast .......... 34

**IIIA-3** North American Absorbent Hygiene Market
Sales and Units by Category, Historical and Forecast .......................... 39

**IIIA-4** North American Absorbent Hygiene Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 41

**IIIA-5** Diaper Changes per Day by Age by Region, Historical and Forecast .............. 46

**IIIA-6** North American Disposable Diaper and Training Pants Market Profile
Annual Growth Rates, Historical and Forecast ........................................ 47

**IIIA-7** Absorbent Hygiene Diaper and Training Pant Market
Sales and Units by Category, Historical and Forecast .............................. 48

**IIIA-8** North American Diaper and Training Pant Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 49

**IIIA-9** Absorbent Hygiene Consumer Incontinence Market
Sales and Units by Category, Historical and Forecast .............................. 56

**IIIA-10** North American Consumer Incontinence Market
Nonwoven Material Consumption by Category, Historical and Forecast .............. 57

**IIIA-11** Absorbent Hygiene Consumer Feminine Hygiene Market
Sales and Units by Category, Historical and Forecast .............................. 60

**IIIA-12** North American Consumer Feminine Hygiene Market
Nonwoven Material Consumption by Category, Historical and Forecast .............. 61
IIIA-13  Institutional Absorbent Hygiene Market
Sales and Units by Category, Historical and Forecast................................. 64

IIIA-14  North American Institutional Hygiene Market
Nonwoven Material Consumption by Category, Historical and Forecast............ 66

IIIA-15  North American Wipes Market
Sales and Units by Segment, Historical and Forecast................................. 69

IIIA-16  North American Wipes Market
Nonwoven Material Consumption by Segment, Historical and Forecast............... 73

IIIA-17  North American Consumer Wipes Market
Sales and Units by Category, Historical and Forecast................................. 75

IIIA-18  North American Consumer Wipes Market
Nonwoven Material Consumption by Category, Historical and Forecast............... 77

IIIA-19  North American Baby Wipes Market
Sales and Units by Category, Historical and Forecast................................. 80

IIIA-20  North American Baby Wipes Market
Nonwoven Material Consumption by Category, Historical and Forecast............... 81

IIIA-21  North American Home Care Wipes Market
Sales and Units by Category, Historical and Forecast................................. 82

IIIA-22  North American Home Care Wipes Market
Nonwoven Material Consumption by Category, Historical and Forecast............... 84

IIIA-23  North American Personal Care Wipes Market
Sales and Units by Category, Historical and Forecast.................................. 89

IIIA-24  North American Personal Care Wipes Market
Nonwoven Material Consumption by Category, Historical and Forecast............... 91

IIIA-25  North American Industrial/Institutional Wipes Market
Sales and Units by Segment, Historical and Forecast.................................. 97

IIIA-26  North American Industrial/Institutional Wipes Market
Nonwoven Material Consumption by Segment, Historical and Forecast............... 99

IIIA-27  North American Specialty Industrial Wipes Market
Sales and Units by Category, Historical and Forecast.................................. 104

IIIA-28  North American Specialty Industrial Wipes Market
Nonwoven Material Consumption by Category, Historical and Forecast............... 106

IIIA-29  North American Institutional Healthcare/Medical Wipes Market
Sales and Units by Category, Historical and Forecast.................................. 110
IIIA-30 North American Institutional Healthcare/Medical Wipes Market
   Nonwoven Material Consumption by Category, Historical and Forecast.......... 113

IIIA-31 North American Filtration Market
   Sales by Segment, Historical and Forecast............................................. 117

IIIA-32 North American Filtration Market
   Nonwoven Material Consumption by Segment, Historical and Forecast......... 120

IIIA-33 North American Air Filtration Market
   Sales and Units by Category, Historical and Forecast............................. 122

IIIA-34 North American Air Filtration Market
   Nonwoven Material Consumption by Category, Historical and Forecast......... 124

IIIA-35 North American Industrial Air Filtration Market
   Sales and Units, Historical and Forecast............................................. 127

IIIA-36 North American Industrial Air Filtration Market
   Nonwoven Material Consumption, Historical and Forecast....................... 129

IIIA-37 Number of North American Vehicles by Region, Historical and Forecast.... 131

IIIA-38 North American Transportation Air Filtration Market
   Sales and Units by Category, Historical and Forecast............................. 132

IIIA-39 North American Transportation Air Filtration Market
   Nonwoven Material Consumption by Category, Historical and Forecast......... 133

IIIA-40 North American Commercial Air Systems Filtration Market
   Sales and Units by Category, Historical and Forecast............................. 136

IIIA-41 North American Commercial Air Systems Filtration Market
   Nonwoven Material Consumption by Category, Historical and Forecast......... 137

IIIA-42 Number of North American Housing Units, Historical and Forecast........... 138

IIIA-43 North American Residential Locations Air Filtration Market
   Sales and Units by Category, Historical and Forecast............................. 139

IIIA-44 North American Residential Locations Air Filtration Market
   Nonwoven Material Consumption by Category, Historical and Forecast......... 140

IIIA-45 North American Personal Protection Air Filtration Market
   Sales and Units by Category, Historical and Forecast............................. 142

IIIA-46 North American Personal Protection Air Filtration Market
   Nonwoven Material Consumption by Category, Historical and Forecast......... 143

IIIA-47 North American Vacuum Cleaner Bag Air Filtration Market
   Sales and Units, Historical and Forecast............................................. 145
IIIA-48 North American Vacuum Cleaner Bag Air Filtration Market
   Nonwoven Material Consumption, Historical and Forecast......................... 145

IIIA-49 North American Liquid Filtration Market Sales .................................. 148

IIIA-50 North American Liquid Filtration Market
   Nonwoven Material Consumption by Category, Historical and Forecast......... 149

IIIA-51 North American Healthcare Facility Usage by Process,
   Historical and Forecast............................................................................ 159

IIIA-52 North American Disposable Medical/Surgical Market
   Sales and Units by Category, Historical and Forecast................................. 163

IIIA-53 North American Disposable Medical/Surgical Market
   Nonwoven Material Consumption by Category, Historical and Forecast........ 164

IIIA-54 North American Surgical Packs and Gowns Market
   Sales and Units, Historical and Forecast................................................... 166

IIIA-55 North American Surgical Packs and Gowns Market
   Nonwoven Material Consumption, Historical and Forecast.......................... 168

IIIA-56 North American Medical and Surgical Other Apparel Market
   Sales and Units, Historical and Forecast................................................... 168

IIIA-57 North American Medical and Surgical Other Apparel Market
   Nonwoven Material Consumption, Historical and Forecast.......................... 169

IIIA-58 North American Medical/Surgical Sterile Packaging and Sterilization Wrap
   Market Sales and Units, Historical and Forecast......................................... 170

IIIA-59 North American Medical/Surgical Sterile Packaging and Sterilization Wrap
   Market Nonwoven Material Consumption, Historical and Forecast ............. 171

IIIA-60 North American Medical and Surgical Wound Care Market
   Sales and Units, Historical and Forecast................................................... 173

IIIA-61 North American Medical and Surgical Wound Care Market
   Nonwoven Material Consumption, Historical and Forecast.......................... 174

IIIA-62 North American Other Disposable Applications Market
   Sales and Units by Category, Historical and Forecast.................................. 176

IIIA-63 North American Other Disposable Applications Market
   Nonwoven Material Consumption by Category, Historical and Forecast........ 182
IIIB. Durable Applications Demand

IIIB-1 North American Durable Nonwoven Markets
Nonwoven Material Consumption by End-Use, Historical and Forecast .......... 185

IIIB-2 North American Building Construction Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 207

IIIB-3 North American Building Construction – Roofing Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 209

IIIB-4 North American Building Construction – Underlayment Market
Nonwoven Material Consumption, Historical and Forecast ........................... 213

IIIB-5 North American Building Construction – Other Materials Market
Nonwoven Material Consumption, Historical and Forecast ........................... 216

IIIB-6 North American Home and Office Furnishings Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 220

IIIB-7 North American Home and Office Furnishings – Floor Coverings Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 226

IIIB-8 North American Home and Office Furnishings – Upholstered Furniture Market
Nonwoven Material Consumption, Historical and Forecast ........................... 228

IIIB-9 North American Mattress and Foundation Consumption, Units,
Historical and Forecast ............................................................................. 231

IIIB-10 North American Home and Office Furnishings – Bedding Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 234

IIIB-11 North American Home and Office Furnishings – Other Furnishings Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 236

IIIB-12 North American Transportation Market
Nonwoven Material Consumption by Segment, Historical and Forecast .......... 241

IIIB-13 North American Light Vehicle Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 253

IIIB-14 North American Other Transportation Market
Nonwoven Material Consumption, Historical and Forecast ........................... 256

IIIB-15 North American Geosynthetic Market
Nonwoven Material Consumption by Segment, Historical and Forecast .......... 260

IIIB-16 North American Geosynthetic – Civil Engineering Market
Nonwoven Material Consumption by Category, Historical and Forecast .......... 271
IIIB-17 North American Geosynthetic – Agriculture Market  
Nonwoven Material Consumption by Category, Historical and Forecast .............. 274

IIIB-18 North American Apparel Market  
Nonwoven Material Consumption, Historical and Forecast ................................. 281

IIIB-19 North American Other Durables Market  
Nonwoven Material Consumption, Historical and Forecast ................................. 283

IV. North American Nonwoven Supply

IV-1 North American Capacity Annual Growth Rates by Process, 1990–2016,  
5-Year Periods ........................................................................................................ 291


IV-5 North American Annual Net Capacity Additions by Line Type, 2011–2016 ..... 297

IV-6 North American Capacity, Production, and U.S. GDP Growth Rates,  
Five-Year Periods, 2005–2016 ............................................................................. 298

IV-7 North American Production Annual Growth Rates by Process,  
Five-Year Periods, 2005–2016 ............................................................................. 299

IV-8 North American Capacity, Production, and U.S. GDP Growth Rates,  
2013–2016 ............................................................................................................. 301

IV-9 North American Capacity and Production Growth Rates by Process, 2016 ...... 302

IV-10 Top 10 Countries for North American Exports Yearly Comparison,  
2006, 2015, 2016 .................................................................................................. 313

IV-11 Top 10 Countries Importing to North America Yearly Comparison,  
2006, 2015, 2016 .................................................................................................. 317