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VOLUME III

Compiled by

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PREFACE

This encyclopedia is an attempt to coordinate and unify practical information on plastic, polymer, and resin trademark products. These categories overlap, i.e., plastics are a subset of polymers, and resins are often, but not always, polymers. However, it has been our aim to give the user of this compilation fingertip availability to a large quantity of essential information about these products. This three-volume compendium has been made possible through the cooperation of the major national and international plastic, polymer, and resin manufacturers.

The information provided here has been gleaned from thousands of brochures, technical bulletins, and data sheets, but the extent of the information provided for each product has been limited by the amount of data given to us by the manufacturers. Whenever possible and/or appropriate, we have given the chemical description, applications, form and color, general, mechanical, thermal, and electrical properties of each product.

With the state of technological growth in these industries constantly increasing, this encyclopedia should serve as an important tool for chemists, engineers, and salespeople here and abroad.

We want to extend our thanks to Roberta Dakan for her tireless efforts in helping make this encyclopedia as accurate and consistent as possible.

It should be noted that when the temperatures of properties such as viscosity, density, solubility, etc. are not included, a standard temperature of 25 C is to be assumed. The information in this publication is reliable to the best of our knowledge. We would appreciate being informed of any errors or omissions so that these can be integrated into subsequent editions of this encyclopedia.

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ABBREVIATIONS

@ . . . . . at
ABS . . . . . acrylonitrile-butadiene-styrene
aq. . . . . aqueous
ASTM . . . . . American Society for Testing Materials
avail . . . . . available
B.P. . . . . boiling pt.
BS . . . . . British Standards
BS&D . . . . . backwashed, settled, and drained
Btu . . . . . British thermal unit
C . . . . . Centigrade
Cal . . . . . calories
cc . . . . . cubic centimeter
CC . . . . . closed cup
CD . . . . . cross direction
charact. . . . . characteristics
chem. . . . . chemical
cm . . . . . centimeter
COC . . . . . Cleveland Open Cup
coeff. . . . . coefficient
comp. . . . . compound
compr. . . . . compressive
conc. . . . . concentrated
conduct. . . . . conductivity
const. . . . . constant
cps . . . . . centipoise or cycles per second
defl. or deflect'n . . . . . deflection
dg. . . . . decigram
dielec. . . . . dielectric
DIN . . . . . Deutsche Industrie Normen
dissip. . . . . dissipation
distort. . . . . distortion
DMF . . . . . dimethylformamide
DOT . . . . . Department of Transportation
DWV . . . . . drain, waste, and vent
elec. . . . . electrical
elong. . . . . elongation
EPDM . . . . . ethylene propylene-diene monomer
esp. . . . . especially
EVA . . . . . ethylene vinyl acetate
exp. . . . . expansion
F . . . . . Fahrenheit
FAA . . . . . Federal Aviation Agency
FB . . . . . free base

FDA . . . . . Food and Drug Administration
flamm. . . . . flammability
flex. . . . . flexural
F.P. . . . . freezing point
ft . . . . . foot
g . . . . . gram
G . . . . . giga
gal . . . . . gallon
gen'l. . . . . general
gr. . . . . gravity
GRP . . . . . glass-reinforced polyester
h . . . . . hour
HAF . . . . . high abrasion furnace carbon black
HB . . . . . horizontal burning
HC . . . . . hydrocarbon
hyd. . . . . hydroxyl
hydrog. . . . . hydrogenated
Hz . . . . . hertz
ICC. . . . . Interstate Commerce Commission
ignit. . . . . ignition
in. . . . . inch
incl. . . . . including
insol. . . . . insoluble
insul. . . . . insulation
J . . . . . joule
k . . . . . kilo
kg. . . . . kilogram
l. . . . . liter
lb . . . . . pound
LDPE . . . . . low density polyethylene
m . . . . . milli or meter
M . . . . . mega
max. . . . . maximum
MC . . . . . megacycle
MD. . . . . mold direction or machine direction
MDA. . . . . methylene disalicylic acid
mech. . . . . mechanical
med. . . . . medium
MEK. . . . . methyl ethyl ketone
mfg. . . . . manufacturing
mg . . . . . milligram
MIBK . . . . . methyl isobutyl ketone
MIL . . . . . Military Specifications

min. . . . . minute
min. . . . . minimum or mineral
misc. . . . . miscellaneous
mm. . . . . millimeter
mo . . . . . months
MOCA. . . . . methylene-bis-orthochloroaniline
mod. . . . . modulus
M.P. . . . . melting point
m.w. . . . . molecular weight
N . . . . . Newton
no. . . . . number
NR . . . . . natural rubber
OC . . . . . open crucible
OR . . . . . operating room
oz. . . . . ounce
Pa. . . . . Pascal
pbw . . . . . parts by weight
pcf . . . . . pounds per cubic foot
PET . . . . . polyethylene terephthalate
PMCC . . . . . Pensky-Martens Closed Cup
pH . . . . . hydrogen-ion concentration
phr . . . . . parts per hundred parts of resin or rubber
pkgs. . . . . packages
PPD . . . . . piperidine pentamethylene dithiocarbamate
psi . . . . . pounds per square inch
pt. . . . . point
PU . . . . . polyurethane
PVAc . . . . . polyvinyl acetate
PVC . . . . . polyvinyl chloride
PW . . . . . potable water
quat. . . . . quaternary
qt. . . . . quart
R&B . . . . . Ring & Ball
ref. . . . . refractive or reference
resist. . . . . resistance or resistivity
r.h. . . . . relative humidity
rpm . . . . . revolutions per minute
R.T. . . . . room temperature
s. . . . . second
SAN . . . . . styrene-acrylonitrile polymer
sapon. . . . . saponification
SBR . . . . . styrene-butadiene elastomer
soften. . . . . softening

sol. . . . . solubility or soluble
sol'n. . . . . solution
sp. . . . . .specific
spec. . . . . specification
SS . . . . . .stainless steel
S/S . . . . . .step by step
std. . . . . .standard
S/T . . . . . .short time
str. . . . . strength
surf. . . . . .surface
TCC . . . . . .Taggart Closed Cup
TD . . . . . .transverse direction
temp. . . . . temperature
tens. . . . . tensile
TDI . . . . . .toluene diisocyanate
therm. . . . . thermal
THF . . . . . .tetrahydrofuran
TOC . . . . . Taggart Open Cup
trans. . . . . transitional
UL . . . . . Underwriter's Laboratory
USDA . . . . . .Unites States Department of Agriculture
uv. . . . . .ultraviolet
V . . . . . volt
visc. . . . . .viscosity
vol. . . . . .volume
W.E. or W. Elec. . . . . .Western Electric
wk . . . . . week
wt. . . . . weight
yrs . . . . . years
$<$ . . . . . .less than
$>$ . . . . . .greater than
$\leqslant$ . . . . . less than or equal to
$\geqslant$ . . . . . .greater than or equal to
$\approx$ . . . . . .approximately equal to
μ . . . . . microns

The following products which are included in this volume are registered with the U.S. Patent Office.

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Staybelite®
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Vestolen®
Vestolit®
Vinsol®
Vydyne®
Vylor®
Wellamid®
XT®
Zonarez®
Zonester®
Zytel®

Q

QO Furfural. Quaker Oats Co./Chem. Div.

Chem. Descrip.: 2-Furaldehyde (aldehyde obtained industrially from pentosan-containing agricultural residues, e.g., corncobs, bagasse, cottonseed hulls, oat hulls, and rice hulls)

Category/Applications: Used in the manufacture of derivatives (furan and tetrahydrofuran types); selective solvent for separating saturated from unsaturated compounds in petroleum lubricating oil, gas oil, and diesel fuel; extractive distillation of C_4 and C_5 hydrocarbons for the manufacture of synthetic rubber; decolorizing agent for wood rosin; solvent and processing aid for anthracene; ingredient in resins, esp. of the phenol-aldehyde types; reactive solvent and wetting agent in the manufacture of abrasive wheels and brake linings

Form: Liquid; Color: Colorless when freshly distilled; darkens on contact with air; industrial furfural is light yellow to brown; Odor: Pungent almond-like

Gen'l. Prop.: M.W.: 96.08; Density: 1.1545 dt/4; Visc.: 1.49 cps; B.P.: 161.7 C (@ 760 mm); F.P.: –36.5 C; Stability: High order of thermal stability in the absence of oxygen; Ref. Index: 1.5235; Flash Pt. (TCC): 61.7 C; Surface Tension: 40.7 dynes/cm (29.9 C)

Therm. Prop.: Conduct.: 6.3×10^{-3} Cal/s-cm^2-C/cm (38 C); Sp. Heat: 0.401 Cal/g/deg (14–80 C)

Elec. Prop.: Dielec. Const.: 38

Toxicity/Handling: May be irritating to the eyes and nose; penetrates intact skin

Std. Pkgs.: Steel tank cars, aluminum tank trucks, and steel drums

Ref.: Bulletin 203-D

QO Polymeg 650. Quaker Oats Co./Chem. Div.

Chem. Descrip.: Diol having a terminal primary hydroxyl and a backbone formed by the tetramethylene oxide repeating unit

Category/Applications: Reacted with TDI to form a liquid prepolymer which is readily converted to the solid elastomer by extension with the proper diamine or glycol; solid cast elastomers made by the prepolymer method are used in rollers, solid tires, tooling, etc.; also used in polyurethanes for such diverse applications as thermoplastics, cast mechanical parts, sealants, coatings, and fibers; products based on QO Polymeg offer hydrolytic stability, fungus resistance, low-temp. flexibility, and provide good tensile strength, and good tear and abrasion resistance

Gen'l. Prop.: M.W.: 650; Visc.: 74,000 cps (30 C) [with 80/20 TDI in 3:2 mole ratio (TDI:QO Polymeg)]

Mech. Prop. (of elastomer made from

above prepolymer cured with 4,4′-methylenebis(o-chloroaniline): Tens. Str.: 5000 psi (Die C, D412); Tens. Elong.: 330% (Die C, D412);100% Mod.: 1500 psi (Die C, D412); Tear Str.: 380 pli (Die C, D624); Compr. Set: 20% (D-395); Hardness (Shore A): 90
Ref.: Bulletin 208

QO Polymeg 1000. Quaker Oats Co./ Chem. Div.
Chem. Descrip.: Diol having a terminal primary hydroxyl and a backbone formed by the tetramethylene oxide repeating unit
Category/Applications: See QO Polymeg 650
Gen'l. Prop.: M.W.: 1000; Visc.: 6000 cps (30 C) [with 80/20 TDI in 2:1 mole ratio (TDI:QO Polymeg)
Mech. Prop. (of elastomer made from above prepolymer cured with 4,4′-methylenebis(o-chloroaniline): Tens. Str.: 5000 psi (Die C, D412); Tens. Elong.: 415% (Die C, D412); 100% Mod.: 1750 psi (Die C, D412); Tear Str.: 465 pli (Die C, D624); Compr. Set: 34% (D-395); Hardness (Shore A): 96
Ref.: Bulletin 208

QO Polymeg 2000. Quaker Oats Co./ Chem. Div.
Chem. Descrip.: Diol having a terminal primary hydroxyl and a backbone formed by the tetramethylene oxide repeating unit
Category/Applications: See QO Polymeg 650
Gen'l. Prop.: M.W.: 2000; Visc.: 11,000 cps (30 C) [with 100% TDI in a 2:1 mole ratio (TDI:QP Polymeg)
Mech. Prop. (of elastomer made from above prepolymer cured with 4,4′-methylenebis(o-chloroaniline): Tens. Str.: 4400 psi (Die C, D412); Tens. Elong.: 475% (Die C, D412); 100% Mod.: 935 psi (Die C, D412); Tear Str.: 345 pli (Die C, D624); Compr. Set: 25% (D-395); Hardness (Shore A): 88
Ref.: Bulletin 208

QuaCorr Resin/Catalyst System. Quaker Oats Co./Chem. Div.
Chem. Descrip.: Furfuryl alcohol based resin system
Category/Applications: Used in the manufacture of corrosion-resistant fiberglass-reinforced plastic equipment and high-performance laminates; these offer excellent chemical resistance, esp. at elevated temps., excellent retention of physical properties at elevated temps., flexibility with safety, easy fabrication by hand lay-up, spray-up, and filament winding techniques, improved toughness permitting fabrication and transportation of large structures
All properties–1/8 in. laminate with 25% glass content:
Gen'l. Prop.: Density: 1.4–1.6 g/cc (D-792); Stability: Resistant to attack by strong and weak acids and bases, aggressive solvents (e.g., ketones, chlorinated types, ethers, low-boiling esters, aromatics, carbon disulfide, etc.); attacked by free bromine, calcium hypochlorite, chlorosulfonic acid, hydrogen peroxide (over 5%), hypochlorous acid, piperidine, potassium peroxide, pyridine, sulfuric acid (over 60%), etc.
Mech. Prop.: Tens. Str.: 10,000 psi (D-638); Tens. Mod.: 600,000 psi (D638); Flex. Str.: 18,000 psi (D790); Flex. Mod.: 700,000 psi (D790); Compr. Str.: 12,000 psi (D695); Impact Str. (Izod): 14 ft lb/in. notch (D256)
Therm. Prop.: Conduct.: 1.8 Btu/ft^2-h-F/in.; Coeff. of Linear Exp.: 1.16 × 10^{-5} in./in./F
Ref.: Bulletin 400-B

Q-Thane Series. K.J. Quinn & Co., Inc.
Chem. Descrip.: Fully reacted polyester, polyether, and aliphatic urethane elastomers
Category/Applications: Thermoplastic resins offering processing versatility for a wide variety of applications incl. agricultural components, appliance components, automotive components, bearings, biomedical tubing and gaskets, business machine parts, cable devices, chemical industry parts, closures, compounding, conveyor belting, electrical/electronic components, films, mechanical parts, packaging, paper and pulp industry, pipe and pipe fittings, plastics, rubber coatings and adhesives, sheeting, sporting equipment, tires, toy parts, wire and cable jacketing, etc.
Form: Solid ¼ in. granules; Color: Colorless to amber; Odor: None
Composition: 0% volatiles
Gen'l. Prop.: Sol.: Insol. in water; Sp. Gr.: 1.15–1.21; M.P.: 325–480 F; Stability: Stable unless overheated; indefinite shelf life when stored in a dry area at 60–90 F
Mech. Prop.: Hardness: 60A to 70D
Std. Pkgs.: 50-lb multiwall paper bags; avail. in gaylord containers, fiber drums, and steel drums on request
Ref.: Data sheets

Q-Thane P-49. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyurethane elastomers
Category/Applications: Resin for extrusion; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.17 (D792)
Mech. Prop.: Tens. Str.: 8500 psi (D-412); Tens. Elong.: 500% (D412); 100% Mod.: 550 (D412); Compr. Set: 25–40% (D395); Tear Str.: 400 (Die C, D624); Impact Str. (Izod): No break (D256); Hardness (Shore A): 70–75 (D2240)
Therm. Prop.: Brittle Pt.: –90 F (D746)
Ref.: Data sheet

Q-Thane P-250. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyurethane elastomers
Category/Applications: Highly crystalline, thermoplastic resin for use in adhesives; exhibits good sol. in conventional adhesive solvents, incl. chlorinated solvents, and is compatible with a wide variety of other resins; features rapid bonding, high strength, plasticizer resistance, reactive hydroxyl content; 145 F adhesive activation temp.; 5 min open tack time; see also Q-Thane Series
Gen'l. Prop.: Sol.: Sol. in acetone, benzene, butyl acetate, cyclohexanone, DMF, ethyl acetate, MEK, methylene chloride, toluol, xylol, tetra hydrofuran, 1,4-dioxane, etc.; Visc. (Brookfield): 300–500 cps (P-250-1) and 600–1200 cps (P-250-2) (15% solids in MEK)
Mech. Prop.: Tens. Str.: 2800 psi (@ break); Tens. Elong.: 615% @ break, 15% @ yield; Mod.: 400 psi (@ yield); 400% Mod.: 600 psi; Tear Str.: 400 pit
Ref.: Data sheet

Q-Thane P-279. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyester-based urethane elastomer
Category/Applications: Thermoplastic elastomer designed for its solubility in a variety of solvents, incl. chlorinated solvents, and as a modifier for other polymer systems; exhibits excellent tensiles, low solution and melt visc.; recommended for use in coating and adhesive applications in both solvent and hot melt processes; excellent bonds are obtained with fabrics and other substrates, e.g., polyvinyl chloride, Mylar, polyurethanes, and foils; may also be used for calendering and for polyblends with other thermoplastic polymers, e.g., PVC, ABS, and nylon; may be crosslinked to further increase rigidity and to minimize solvent and heat degradation

Gen'l. Prop.: Sol.: Sol. in acetone, benzene, butyl acetate, Cellosolve acetate, cyclohexanone, diacetone alcohol, DMF, ethyl acetate, 1,4-dioxane, methylene chloride, MEK, THF; partly sol. in toluol, xylol; Visc. (Brookfield): 140–300 cps (15% solids in MEK)
Mech. Prop. (of films cast from a 20% MEK sol'n. dried 10 min @ 70 C plus 30 min @ 100 C; after 10 days): Tens. Str.: 7200 psi (D412); Tens. Elong.: 400% (D412); 100% Mod.: 80 psi (D-412); Tear Str.: 290 pit (D624); Hardness (Shore A): 60 (10 s, D2240)
Ref.: Data sheets

Q-Thane P-280. K.J. Quinn & Co., Inc.
Chem. Descrip.: Ester-based polyurethane elastomer
Category/Applications: High performance polymer which is soluble in nonpolar solvents for use in laminating adhesives, solution coatings for fabric and films, e.g., magnetic tape binder, for calendering, and for polyblends with other thermoplastic polymers such as PVC, ABS, and nylon; offers excellent mechanical properties, compounding versatility, and excellent low-temp. flexibility; see also Q-Thane Series
Form: Granular
Gen'l. Prop.: Sp. Gr.: 1.17 (D792); Visc. (Brookfield): 300–700 cps (15% solids in MEK); Stability: Resistant to aliphatic hydrocarbons and drycleaning solvents
Mech. Prop. (on films cast from a 20% MEK sol'n. and dried 10 min @ 70 C plus 30 min @ 100 C; after 10 days): Tens. Str.: 7600 psi (D412); Tens. Elong.: 295% (D412); 100% Mod.: 760 psi (D412); Tear Str.: 630 pit (D-624); Hardness (Shore A): 68 (10 s, D2240)
Ref.: Data sheets

Q-Thane P-360. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyester urethane elastomer
Category/Applications: Resin for extrusion; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.21 (D792)
Mech. Prop.: Tens. Str.: 7000 psi (D412); Tens. Elong.: 375% (D412); 100% Mod.: 3000 (D412); Compr. Set: 25–35% (D395/B); Tear Str.: 800 (Die C, D624); Impact Str. (Izod): No break (D256); Hardness (Shore A): 95–100 (D2240)
Therm. Prop.: Brittle Pt.: –70 F (D746)
Ref.: Data sheet

Q-Thane P-440. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyester urethane elastomer
Category/Applications: Resin for extrusion and injection molding; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.20 (D792)
Mech. Prop.: Tens. Str.: 9000 psi (D-412); Tens. Elong.: 450% (D412); 100% Mod.: 1800 (D412); Compr. Set: 25–40% (D395/B); Tear Str.: 725 (Die C, D624); Impact Str. (Izod): No break (D-256); Hardness (Shore A): 90–95 (D-2240)
Therm. Prop.: Brittle Pt.: –95 F (D746)
Ref.: Data sheet

Q-Thane P-455. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyester urethane elastomer
Category/Applications: Resin for extrusion; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.17 (D792)
Mech. Prop.: Tens. Str.: 9000 psi (D-412); Tens. Elong.: 650% (D412); 100% Mod.: 575 (D412); Compr. Set: 25–40% (D395/B); Tear Str.: 400 (Die C, D-624); Impact Str. (Izod): No break (D-256); Hardness (Shore A): 75–80 (D-

2240)
Therm. Prop.: Brittle Pt.: –90 F
Ref.: Data sheet

Q-Thane PA-01, -06, -58. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyurethane resin
Category/Applications: Fast crystallizing urethanes for adhesive manufacture; offer excellent bond to plasticized vinyl; PA-01 offers good heat resistance; PA-06 and -58 offer very good heat resistance; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.18; Visc.: 800–1200 cps (15% in MEK)
Curing Charact.: Tack Time: 4 min, 12 min, and 4 min respectively
Ref.: Data sheet

Q-Thane PA-05, -07, -93. K.J. Quinn & Co., Inc.
Chem. Descrip.: Linear polyurethane resins
Category/Applications: Very fast crystallizing, thermoplastic resins for adhesives, forming outstanding bonds to PVC materials and high resistance to commonly used plasticizers; PA-05 has much higher heat resistance and lower solubility than PA-93; PA-07 is a higher visc. version of PA-05; see also Q-Thane Series
Gen'l. Prop.: Sol. (of PA-93): Sol. in low-cost solvents, ketones, esters, and chlorinated solvents; not sol. in aliphatic hydrocarbons and alcohols; swells readily in aromatic hydrocarbons; these can be used in large amounts as diluents
Ref.: Data sheet

Q-Thane PA-10, 20, 30, 40. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyurethane elastomers
Category/Applications: Highly crystalline elastomers designed for adhesive use; during noncrystalling state (sol. in ketone solvents) have excellent wetting characteristics to highly plasticized vinyl, leather, fabric, etc.; after solvent evaporation, a flexible film is formed; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.19; Visc.: 300–800, 800–1200, 1200–2000, and 2000–3000 cps respectively (15% in THF)
Mech. Prop.: Tens. Str.: 2700–3300, 3300–3600, 3600–4000, and 4000–4500 psi respectively; Tens. Elong.: 850%, 800%, and 750% (PA-10, 20, and 30 respectively, @ break); 300% Mod.: 650 psi (PA-10, 20, and 30); Hardness (Shore A): 95
Ref.: Data sheet

Q-Thane PA-11. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyurethane resin
Category/Applications: Moderately fast crystallizing polymer with a ride range of solubilities, making it ideal for the mfg. of two-component adhesives for laminating; offers long tack after activation, but with good initial bond, good adhesion to vinyl and other substrates; see also Q-Thane Series
Gen'l. Prop.: Sol.: Sol. in acetone, benzene, n-butyl acetate, cyclohexanone, di-isobutyl ketone, ethyl acetate, ethylene dichloride, MEK, MIBK, methylene chloride, toluene, xylene, tetra hydrofuran, etc.; Sp. Gr.: 1.19; Visc.: 600–1000 cps (20% in MEK)
Mech. Prop.: Tens. Str.: 3000–3500 psi; Tens. Elong.: 690% (@ break); 300% Mod.: 1400 psi; Hardness (Shore A): 95/92
Ref.: Data sheets

Q-Thane PA-29. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyurethane resin
Category/Applications: Ultra fast crystallizing polyurethane resin for adhe-

sives with excellent bond strength, excellent adhesion to highly plasticized vinyl; can be modified with suitable cross-linking agents; when cross-linked, substrate failure occurs; can be cross-linked with Q-Thane 303 (isocyanate adduct) to give bond with outstanding adhesion and heat resistance; heat activation temp. of 140 F; see also Q-Thane Series
Gen'l. Prop.: Sol.: Excellent sol. in MEK, MEK acetone; high tolerance for aromatics; sol. in cyclohexanone, N,N, dimethyl formamide, ethyl acetate, ethyl benzene, ethylene dichloride, methyl chloride, tetra hydrofuran, methyl butyl ketone, etc.; Visc.: 500–1000 cps (15% solids in MEK)
Ref.: Data sheets

Q-Thane PA-80. K.J. Quinn & Co.
Chem. Descrip.: Polyurethane resin
Category/Applications: Moderately crystalline elastomer forming a very tough film; in solution has excellent wetting ability to highly plasticized vinyl, insuring excellent adhesion; high heat resistance; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.18; Visc.: 2500–3500 cps (20% in MEK)
Mech. Prop.: Tens. Str.: 3200–3500 psi; 300% Mod.: 600 psi; Hardness (Shore A): 85
Ref.: Data sheet

Q-Thane PC-58. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyester urethane elastomer
Category/Applications: Resin for extrusion; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.18 (D792)
Mech. Prop.: Tens. Str.: 8500 psi (D-412); Tens. Elong.: 600% (D412); 100% Mod.: 600 (D412); Compr. Set: 25–40% (D395/B); Tear Str.: 475 (Die C, D624); Impact Str. (Izod): No break (D256); Hardness (Shore A): 80–85 (D2240)
Therm. Prop.: Brittle Pt.: –90 F (D746)
Ref.: Data sheet

Q-Thane PE-23. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyether urethane elastomer
Category/Applications: Resin for injection molding; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.16 (D792)
Mech. Prop.: Tens. Str.: 6500 psi (D-412); Tens. Elong.: 600% (D412); 100% Mod.: 800 (D412); Compr. Set: 25–40% (D395/B); Tear Str.: 450 (Die C, D624); Impact Str. (Izod): No break (D256); Hardness (Shore A): 80–85 (D2240)
Therm. Prop.: Brittle Pt.: –60 F (D746)
Ref.: Data sheet

Q-Thane PE-36. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyether urethane elastomer
Category/Applications: Resin for extrusion and injection molding; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.17 (D792)
Mech. Prop.: Tens. Str.: 8500 psi (D-412); Tens. Elong.: 450% (D412); 100% Mod.: 1500 (D412); Compr. Set: 25–40% (D395/B); Tear Str.: 550 (Die C, D624); Impact Str. (Izod): No break (D-256); Hardness (Shore A): 90–95 (D-2240)
Therm. Prop.: Brittle Pt.: –50 F (D746)
Ref.: Data sheet

Q-Thane PE-47. K.J. Quinn & Co., Inc.
Chem. Descrip.: Polyether urethane elastomer
Category/Applications: Resin for injection molding; see also Q-Thane Series
Gen'l. Prop.: Sp. Gr.: 1.18 (D792)
Mech. Prop.: Tens. Str.: 7000 psi (D-412); Tens. Elong.: 425% (D412); 100% Mod.: 2600 (D412); Compr. Set: 25–