## INDEX

story drift ratio, 61	Terzaghi, K., 397
story shear, 61	testing agency, 61
strength, 61	thermal factor, 428
strength design, 1–2	Thorkildson, R.M., 455
combining factored loads using, 7–8	tie strut, 59
with overstrength factor, 87	Tobiasson, W., 426, 428, 434
structural dumping, 521–522	topographic effects, wind, 251–254
Structural Engineers Associations, 427	torsional irregularities, 495
structural geometry, 494–495	torsional moments, 291, 523, 545
structural height, 61	torsional wind load cases, buildings exempt from,
structural integrity, general, 4–5	367–368, 369f–370f, 593
structural irregularities, 81–85, 83t, 84t, 85t	total design displacement, 165
structural modeling, 89	total maximum displacement, 165
structural observations, 61, 362	toxic substances, 2, 5–6, 382–384
structural reliability theory, 390	Traczuk, G., 564
structural robustness, 393	transverse reinforcement requirements, 490
structural separation, 97–98	troughed free roofs, 289f, 552
structural steel, 127, 360	trussed towers, 314f
structural wall, 62, 96–97	Turkstra, C.J., 387
structure, 61	Twisdale, L.A., 524
Stubbs, N., 526	
Stuttgart, University of, 490	ultimate deformation, 58
subdiaphragm, 61	undrained shear strength average, 204–205
supports, 61, 476	Uniform Building Code (UBC), 467
Surry, D., 526	United States Army Cold Regions Research and
suspended ceilings, 116	Engineering Laboratory (CRREL), 427
T-11 D 422	United States Geological Survey (USGS), 503
Tabler, R., 432	U.S. Army Corps of Engineers, 418, 419, 422,
tanks and vessels	427
anchorage, 151t, 152	U.S. Department of Agriculture Soil Conservation, 427
boilers and pressure vessels, 158–159	
elevated, for liquids/granular materials, 156	utility lines, 123
ground-supported storage (granular materials), 156	vehicle barrier system, 13, 14, 409
ground-supported supported storage (liquids),	vehicle barrier system, 13, 14, 409 vehicle garages, 410–411
152–155, 154t, 497–498	velocity-dependent damping device, 179
horizontal, saddle supported for liquid/vapor	velocity pressure, 259–260, 261t, 557
storage, 160	components and cladding, 316, 317f
liquid and gas spheres, 159–160	wind loads on other structures/building
maximum material strength, 159t	appurtenances, 307–308, 310t
petrochemical/industrial liquid storage, 155	velocity pressure exposure coefficient, 547
piping attachment flexibility, 150, 151t	veneers, 61
refrigerated gas liquid storage, 160, 498	vertical deflections, 365, 579–580
seismic design basis, 149–150	vertical irregularities, 81, 84t, 493
strength/ductility, 150	vertical pilings and columns, breaking waves and,
water storage/water treatment, 155	23
Tattelman, P., 455	vertical seismic load effect, 86
Taylor, D., 430, 434	vertical walls, breaking waves and, 23
Taylor, D.A., 394, 427, 432	vessels. See tanks and vessels
Taylor, T.J., 571	vibrations, 365, 581
telecommunication towers, 149	Vickery, P.J., 508, 510, 511, 513, 515, 526
Templin, J.T., 571	viscous damping, 191–192
temporary facilities, 2	V zone, 21, 416, 418
± *	