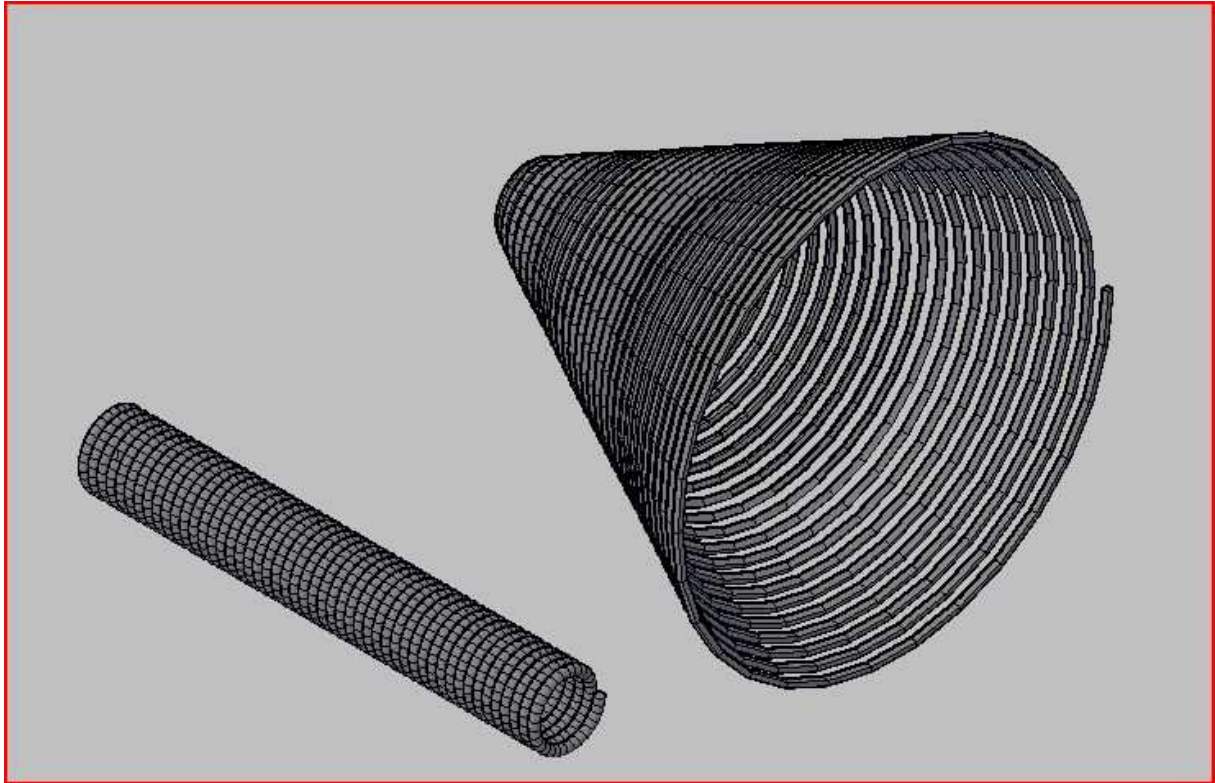


## Création d'une spirale 3d (Autocad <2007)



Routine lisp.

Faites un copier coller dans le bloc note de la routine suivante et sauvegardez sous le nom « spirale3d.lsp ».

```
(defun myerror (s)
  (if (/= s "Function cancelled")
    (princ (strcat "\nError: " s))
  )
  (setvar "cmdecho" ocmd)
  (setvar "blipmode" oblp)
  (setq *error* olderr)
```

```
(princ)
)

(defun cspiral (ntimes bpoint hfac lppass strad vfac
              / ang dist tp ainc dhinc dvinc circle dv)

  (setvar "blipmode" 0)
  (setvar "cmdecho" 0)
  (setq circle (* 3.141596235 2))
  (setq ainc (/ circle lppass))
  (setq dhinc (/ hfac lppass))
  (if vfac (setq dvinc (/ vfac lppass)))
  (setq ang 0.0)
  (if vfac
    (setq dist strad dv 0.0)
    (setq dist 0.0))
  )
  (if vfac
    (command "_3dpoly")
    (command "_pline" bpoint))
  )
  (repeat ntimes
    ;;
    ;;; section of revised code
```



```
(if (= ntimes 1) ; if the number of
      ;rotations is 1
      (repeat (1+ lppass) ; then calculate points
      ; one extra time to allow
      ; for the missing polyline segment
      ; at the end of the rotation
      (setq tp (polar bpoint (setq ang (+ ang ainc))
      (setq dist (+ dist dhinc))
      )
      )
      (if vfac
      (setq tp
      (list
      (car tp)
      (cadr tp)
      (+ dv (caddr tp))
      )
      dv (+ dv dvinc)
      )
      )
      (command tp) ; continue to the next point...
      );close inner repeat
;;;
;otherwise
(repeat lppass
```



```
(setq tp (polar bpoint (setq ang (+ ang ainc))
  (setq dist (+ dist dhinc))
  )
)
(if vfac
  (setq tp
    (list
      (car tp)
      (cadr tp)
      (+ dv (caddr tp))
    )
    dv (+ dv dvinc)
  )
)
(command tp) ; continue to the next point...
);close inner repeat
);close if
);close main repeat
(command "") ; until done.
(princ)
);close defun

;;;

;;; Interactive spiral generation

;;;
```

```
(defun C:SPIRAL (/ olderr ocmd oblp nt bp cf lp)
  (command "_undo" "_group")
  (setq olderr *error*
    *error* myerror)
  (setq ocmd (getvar "cmdecho"))
  (setq oblp (getvar "blipmode"))
  (setvar "cmdecho" 0)

  (initget 1) ; bp must not be null
  (setq bp (getpoint "\nCenter point: "))
  (initget 7) ; nt must not be zero, neg, or null
  (setq nt (getint "\nNumber of rotations: "))
  (initget 3) ; cf must not be zero, or null
  (setq cf (getdist "\nGrowth per rotation: "))
  (initget 6) ; lp must not be zero or neg
  (setq lp (getint "\nPoints per rotation <30>: "))
  (cond ((null lp) (setq lp 30)))
  (cspiral nt bp cf lp nil nil)
  (setvar "cmdecho" ocmd)
  (setvar "blipmode" oblp)
  (setq *error* olderr) ; Restore old *error* handler
  (princ)
  (command "_undo" "_end")
)

;;;
```

```
;;; Interactive spiral generation
;;;
(defun C:3DSPIRAL (/ olderr ocmd oblp nt bp hg vg sr lp)
  (command ".undo" "group")
  (setq olderr *error*
    *error* myerror)
  (setq ocmd (getvar "cmdecho"))
  (setq oblp (getvar "blipmode"))
  (setvar "cmdecho" 0)
  (initget 1) ; bp must not be null
  (setq bp (getpoint "\nCentre: "))
  (initget 7) ; nt must not be zero, neg, or null
  (setq nt (getint "\nNombre de rotations: "))
  (initget 7) ; sr must not be zero, neg, or null
  (setq sr (getdist bp "\nRayon de depart: "))
  (initget 1) ; cf must not be zero, or null
  (setq hg (getdist "\nPas horizontal : "))
  (initget 3) ; cf must not be zero, or null
  (setq vg (getdist "\nPas verticale : "))
  (initget 6) ; lp must not be zero or neg
  (setq lp (getint "\nNb de points par rotation <30>: "))
  (cond ((null lp) (setq lp 30)))
  (cspiral nt bp hg lp sr vg)
  (setvar "cmdecho" ocmd)
  (setvar "blipmode" oblp)
```

```
(setq *error* olderr)
(princ)
(command "_undo" "_end")
)
(defun C:3s ()
(C:3dspiral))
;;;
(princ "\n\tC:SPIRAL and C:3DSPIRAL loaded. ")
(princ "\n\tStart 3DSPIRAL command with 3S")
(princ)
```

Pour charger la routine au démarrage d'autocad :

Outil, autolisp, charger une application, click sur contenu et sélectionner votre fichier « \*.lsp », puis fermer.

Pour appeler la commande spirale 3d tapez « 3S »

Pour donner du volume vous pouvez extruder un cercle en choisissant comme chemin la spirale.

N'oubliez pas, de renseigner le champ de recherche par défaut, avec l'emplacement ou se trouvent le fichier « \*.lsp ».