

#1342: Radioss – Recommendations for Crash Applications Interface Type 24

Product: Radioss

Product Version: Radioss 14.0 or above

Topic Objective

Recommendations for Crash Applications for Interface Type 24 in Radioss.

Topic Detail

Interface Type 24 is General contact interface, optional single surface or surface to surface or nodes to surface contacts using penalty method with **constant stiffness**.

- Type 24 is recommended for all models where there is no physical gap (solids to solids)
- If a press-fit is being modeled, then $Inacti = -1$ should be used (e.g. initial interference between parts as in a mobile phone)
- Type 24 is not recommended for airbag modeling when using FVM as some intersection may occur because of linear stiffness and may lead to negative volume for the polyhedron elements

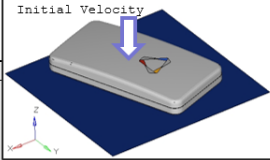
Parameter	Comment
$Inacti = 5$	The master segment is shifted by the initial penetration value, P_0
$I_{stf} = 4$	Set stiffness of interface based on the softer material.
$St_{min} = 1000$ N/mm	Specify a minimum stiffness in the contact to avoid too soft contact.
---	Define physical values for the material constants and part thickness, even if rigid. They are used for the contact stiffness and the gap definition.

Best way is to define part sets (/SET/PART) and reference these as master/slave for Type 24.

```
#---1---|---2---|---3---|---4---|---5---|---6---|---7---|---8---|
/INTER/TYPE24/3
INTERFACE 3
# Surf_ID1 Surf_ID2 ISTIF
# 43 42 4
# GRND_IDS GAP_MAX_S GAP_MAX_M
# 0 0 0
# Stmin Stmax IGAP0 Ipen_max Ipen_min
# 1000 0 0 0 0
# STFAC FRIC Tstart Tstop
# 0 0 0 0
# I_BC VIS_S
# 000 0
# Ifric Ifiltr Xfreq SENS_ID
# 0 0 0 0
#---1---|---2---|---3---|---4---|---5---|---6---|---7---|---8---|---9---|---10---
```

K=min(Km, Ks)

Initial Velocity



Min Stiffness (N/mm)

Adjust master surface to remove initial penetrations